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THE importance of hygiene, as a matter of public and private concern, needs no advocate at the present day, and I should certainly be wasting my words if I were to plead for it before the Royal College of Physicians. But the idea of the body as needing to be *educated*, as well as hygienically cared for, positively educated for its business, stands on a different level and is only just beginning to get the attention that some of us think it deserves. It is this idea of the body, not only as needing education in an elementary form, but as worthy of it in a high form, that I plead for. My plea includes hygiene, but goes beyond it.

An Idea Familiar to the Greeks

The idea is by no means a new one. It was familiar to the Greeks of old. According to their greatest thinkers the best results of human culture are not attainable either in the way of intelligence, creative thinking, art, or social discipline unless the body participates with the mind in the process of education and keeps step with the mind from first to last. It was an unfortunate moment in the history of education when educators learned to be content with having the body hygienically exercised and cared for, allowing it so to speak to slip out of their hands, and thenceforward concentrating their efforts on the education of the mind alone. This was the putting asunder of two things which God has joined together. It were hard to say whether the human mind or the human body has suffered more from that unnatural divorce. Many of the failures of our present educational system, some of a lamentable kind, can be traced to it. The evil consequences of it, physical, mental, and moral, are all over the civilised world. Hygiene itself, in spite of astonishing advances, suffers a serious obstruction in the fact that so many of the human bodies on which it operates are *uneducated*.

Among the great secular professions of the modern world the one that stands out as definitely educating the bodies of its members, as well as their minds, for the work they have to do is that of the fighting services—the Army, the Navy, and the Air Force; and to this we might add some others such as jockeys, prizefighters, and professional athletes. But in general it is not attempted in the secular professions; such training as the body gets through sports and otherwise having no direct relation to the professional function of its owner in medicine, law, government, or whatever else. The nearest analogy to the practice of the fighting services is to be found in certain religious orders which impose on their members a routine of fasts, ritual and other observances for the definite purpose of bringing the body into fit condition for spiritual exercise. The most remarkable instance is the Indian system of Yoga, which is, as you know, a method of educating the body in ways that are said to liberate the mind and awaken the consciousness of spiritual things. I am not here to recommend the system of Yoga; but I think the authors of it deserves credit for their grasp of a great principle—namely, this: that the highest attainments of the human spirit require the body as well as the mind to be enlisted in their pursuit. It is a principle with a very broad application. It applies not only to the high attainments of the mystic, the genius, the creative thinker, but to the everyday virtues of the common man, self-respect, self-control, courage, trustworthiness, decency, and clean conduct in general. These also are unattainable unless the body as well as the mind are enlisted in their pursuit. And they are the foundation of good citizenship, which is the common profession of us all.

In the modern world, with its immense variety of specialised callings it is clearly impossible to devise an education of the body suited to the special requirements of each one, as the body education of the soldier or of the monk is suited to his. But, while that is impossible, I would raise the question whether the training of the citizen, for the common profession in which we are all sharers, does not require an education of the body, equally definite to that which is given to the soldier for his profession, to the monk for his—or, I may add, to the jockey for his. The Greeks, with Plato at their head, would have answered that question with an emphatic affirmative. The idea of training the citizen by operating on his mind alone, by lecturing him on the duties of citizenship, and requiring him to pass an examination in social and political science would have been dismissed by Plato as futile. "Your good citizen," he would have said, "is before else a good coöperator. He must have the spirit of coöperation and the habit of it in his very blood and bones. He must not only be master of his own actions—self control—but skilled in adjusting them to the actions of his fellow citizens. Like a skilled dancer, he must follow the music and learn to keep step with his fellows in the rhythms of reason. And you will never get that if you fail to educate his body, no matter how eloquently you lecture him on his duties nor what examinations you require him to pass."

I am naturally diffident in speaking about the human body before an audience whose knowledge of it both in health and disease is vastly greater than my own. But even a layman may say, with some confidence in your agreement, that health and disease in a human being are a different thing from health and disease in an ox or a horse. No doubt they follow the same course up to a certain point. Both man and ox digest their food, circulate their blood, and perform the related functions; but after that, factors enter into the health of a man which are absent in the ox. Unlike the ox, the man "looks before and after and pines for what is not," and this "pining for what is not" is apt to interfere with good digestion and sound sleep. The veterinary surgeon is not bothered by these things. A human being informed by his physician that he is suffering from tuberculosis is a very different kind of patient from a tuberculous cow. The fact that he knows what is the matter with him makes an enormous difference. Would not the diagnosis be incomplete and the prognosis worthless if the reactions of his knowledge on the course of the disease were left out of account? It is unnecessary to labour a point so obvious. I mention it because it has an important bearing on what I have to say.

* The Lloyd Roberts lecture delivered before the Royal College of Physicians of London on Nov. 22nd.

Principles of Bodily Self-control

I imagine it would be an advantage to the physician in his practice if all his patients, both actual and possible, had received a sound physical education before they came under his care. In one sense it might be a disadvantage, since he probably would have far fewer patients to deal with. But leaving that aside—which we may reasonably do since preventive medicine would have the same effect—would not a disciplined human body be much easier to cure than one which had never learnt the principles of bodily self-control? Would not the task of restoring it to health be immensely simplified if the great rhythms of life were already established in its habits and movements? And would it not be a further help if your patient were furnished with some skilful aptitude on which he could employ himself during the enforced leisure of his sickness or his convalescence? A physician, speaking of the patients in a great hospital, said to me not long ago: "We just patch them up. But the majority have no self-management. They resume their old habits as soon as they leave us; fall back on the same dull and drab existence, with no interests beyond the excitements of the streets; they soon get devitalised, and then they are back again, with a new malady if not with the old one. They are coming and going all the time. To establish permanent health in these disordered bodies is almost an impossibility." That physician was a great advocate of preventive medicine, of which I will say a word later on.

Our public system of education is confronted with the same difficulty. An enormous wastage of educational effort is going on owing to the fact that the bodily condition of those to whom we offer mental culture is such that they are incapable of receiving it, or profiting by it. The headmaster of a great London school tells me that 40 per cent. of the children attending it are too devitalised to take an effective interest in what they were being taught. In a great American city where I was recently studying the same problem I found that 75 per cent. of the children in the city had been classed on examination as physically defective in one way or another. My observations both in this country and America have convinced me that a terrible process of biological degeneration, which begins in the children, is going on in great cities. It is one of the evil fruits of urban civilisation, and unless we can find some means of countering it the prospects of the educator are dark indeed. It is impossible to combine a high-grade culture of the mind with a low-grade culture of the body. Whatever mental or moral qualities you set most store by in your conception of the good citizen—intelligence, self-respect, self-control, discipline, courage—those qualities must have their foundation in an adequate condition of the body, or they will not come into existence at all. A rising public intelligence and a falling public physique cannot be made to go together. No doubt instances occur to you of invalids and cripples who have developed astonishing mental powers. But these are the exceptions that prove the rule. Nobody in his senses would argue from such instances that the way to produce high mental power in the rising generation is to turn all the young people into invalids and cripples. We all know that the right way is in exactly the opposite direction.

"Physical Illiterates"

What, then, is the physical condition of our great urban populations in London, Manchester, Birmingham, Sheffield? In what terms would you describe the physique of an English crowd, as you might see it at a test match, a race meeting, at a moving picture show, or in Oxford-street at the rush hour? I hardly think you would describe it as satisfactory. You would probably say it is better than it was 50 years ago, and perhaps you would quote statistics, which I should not dispute, to show that these people are healthier and longer lived than such people used to be. But I should venture to add, layman as I am, that a large proportion of them bear visible signs of being in what is called "low condition." I saw a statement lately that 60 per cent. of the population of London are suffering from neurasthenia in one or other of its many forms; and I imagine that a practised eye would have no difficulty in finding that percentage by visual inspection of an average crowd—their faces, their bearing, their figures, their movements. Shall I be far wrong if I class the majority of those people as *physical illiterates*—I mean that they are in a parallel condition physically to what they would be mentally if they had never learned to read and write. Go to an elementary school in a crowded part of London, and the teacher may tell you, as one lately told me, "that not more than 10 per cent. of the children know how to breathe, to walk, to stand, to sit, or to speak"—physical illiteracy in its earliest form. Might I not go a step further and say that a large proportion of these human bodies show unmistakable signs of being *damaged*, not in the sense of being mutilated, but in the sense of being defective, devitalised, and inadequate. In short, should I be wrong in concluding that the physique of the crowd, in spite of all that modern hygiene has done to improve it, is in a rather deplorable condition; that human damage is frightfully common; and further, that these damaged bodies are not promising material for the intellectual reformer, the moral reformer, or the social reformer to work upon? Will it prove easy to inspire them with the love of knowledge, with the love of excellence, with public spirit, with interest in the things of the mind; and is it surprising that so much of their leisure is spent in the search for stimulants, sensations, thrills, excitements—with a sex flavour by preference? I think it is not. I think it is just what we would expect. The physical condition of the crowd and the amusements of the crowd correspond pretty closely. Such at least are my impressions and such are the conclusions to which I find myself reluctantly forced. I confess that when I study the type of physique that predominates in a crowd of young men and women at the movies, or even in the crowd that looks on at a test match, I get very little consolation from the thought that they have all be taught to read, write, and do sums. I could almost wish they had not. At all events, I wish they had been taught something else as well.

For these reasons a good many of us have become convinced that one of the first things we educators must do is to revise our whole conception of education. I devoutly hope the medical profession will lend us their powerful aid in getting the public to revise it also; because in this matter we can do nothing unless we have public opinion behind us, and we are far from having got it as yet. The elementary education which consists in the three R's—and that is what the public understands by it—needs backing, needs underpinning by an education more elementary still, and yet more vitally necessary to all human beings. The object for which I would ask the help of the medical profession—and I am not alone in asking it—is this: that a sound physical education—

something widely different and far more scientific than the poor version of it now only too common—should be made accessible and, indeed, compulsory for every member of the community on exactly the same terms as reading, writing, and arithmetic. In that way not only should we get many times the value we are now getting out of the three R's and all they lead up to in secondary schools and universities, but we should be laying the foundation for other qualities of manhood and womanhood, perhaps even higher qualities, than those which our present methods lead up to. Would not that be a great work of preventive medicine? I am not proposing this as a panacea for all the sufferings of humanity. My faith in panaceas went long ago. But I can think of no more effective means of countering that terrible process of human damage that is going on in our cities and which, if it goes on unchecked, will defeat all the other efforts we are making, whether political or educational, to put our affairs on a better footing. All other problems seem to me secondary to that of raising the quality of the human material in the masses of the people. If that goes down nothing else will go up, no matter what changes you make in political institutions or in the social system. And this that I have named seems to me the first step to be taken, the first blow to be struck, in the campaign for raising the quality of the human material, on which everything else depends.

Public Indifference

At the present moment the public mind is indifferent to all this—though perhaps less indifferent than it was; and in some quarters there is positive opposition. Here is a characteristic instance that came to my knowledge the other day. The master of a secondary school had introduced into it a very beautiful and effective type of rhythmical physical education which he had studied on the continent. He had found, in the course of his studies, that young people were so vitalised by this kind of training, that they learnt their lessons and acquired the technique of sciences and languages in about half the time taken by the others—to say nothing of an immense improvement in their health and their power of resisting infectious disease. So he introduced it into his school and gave considerable time to it. Immediately there was a storm of opposition from the parents. "How are our children to pass their examinations and get their leaving certificate if they spend their time in this kind of nonsense? Rhythmic dancing! We don't want our children trained as ballet dancers. We want them to pass their matriculation, or at least to leave school with a certificate in their hands that will help them to get a job." Yet what was the poor man's offence? He had shown himself wiser than a good many schoolmasters I know of by grasping the principle that the minds of young people can be trained through the medium of their bodies, and that if you go about it in the right way—and it is easy to go about it in the wrong—there is no better means of vitalising the intelligence and awakening the creative part of it.

And now let me give you a more encouraging piece of testimony. In the south-east of London there is an elementary school, attended by a poor class of children, where a bold experiment is being made in educating the mind through the body. The method employed is that commonly known as eurhythmics. It consists simply in bringing all the movements of the body under the control of certain natural rhythms which have their source in the structure of the body itself, and to which children respond almost instinctively, and delight in practising. I will read a few lines from an account written for me by the victorious woman who has carried this thing through and even succeeded in winning official recognition by the authorities of the value of what she is doing. "The children," she says, "come from a poor, congested riverside area. . . . The nearest park is over a mile away, too far for the mothers to send their girls. A network of railway lines raised above very squalid archways and a dangerous highway enclose most of their homes. Money is scarce. The fathers are unskilled railway workers, a road-sweeper, a tramcar washer, a 'bus driver, an explosive worker on short time. One child in whom we have discovered real gifts is fatherless and the youngest of 12.

"What, then, is the effect of our work? Though there is no cultural background, it has made the children into people of character. They apply the same bold methods and power of concentration to their ordinary lessons and stand out in their class for their initiative and power of leadership. They are equally ready to subordinate self to the leadership of others. They are good coöperators, and show quick intuition for the needs of the others. When doing group work each child responds in a flash. They are busy, happy, balanced little people. Besides quickening their mental power, their work has given them a bodily control and poise that most adults might well envy. It will endow them with an absorbing interest for their leisure time and the power to give pleasure to others."

So you see the good work has begun. Or rather, it has been revived. For the lines of it are precisely those which Plato laid down 24 centuries ago as the necessary first stage in the liberal education of good citizens. Observe these children become *good coöperators*. Think, I pray you, of what is implied in that.

A New Calling for Teachers

I wish these principles could be introduced into every teachers' training college in the land. At present there is a great dearth of teachers who understand the art—for it is an art—of coördinating the education of the body with the education of the mind. We are behind the continent of Europe in that matter. We are behind America, which is behind us in the matriculation department, but where experiments on the lines I am suggesting are being tried out much more boldly and with greater support from public opinion than they are with us. The teaching profession in this country is still dominated by the tradition that education is an operation performed on the mind alone. The majority have a most inadequate conception of the part the body plays in it. They know, of course, that the body must be kept in health and needs exercise. But very few of them have grasped the fact that the body needs positive education, a very different thing from mere exercise, as well as the mind, and that unless you educate the two together your education of either is bound to fail of its best results. They know that children must be sent out into the playground to kick up their heels and play games; they know that strenuous exercise takes the devil out of adolescent boys; they know that the young rascals show a tendency to go to sleep after a football match or a cross-country run, and that the Latin prose next morning is badly done in consequence; but only a minority, though I am thankful to say an increasing minority, are aware that the play hunger of the young human animal is one of the most valuable forces the educator has to work with, and that under

skilful guidance it may bring an immense reinforcement to his mental and moral development and double the value of what he is taught in the classroom.

I say under skilful guidance. Everything turns on that. We make a mistake in entrusting physical culture to people of inferior education. They ought to be people of high education—as they are in Sweden, for example. They ought to be well versed in the structure, anatomy, and functions of the human body. They ought to be versed in all the corrective disciplines that are needed in populations where 75 per cent. of the children may be physically defective; through their knowledge of those things they might save at least 50 per cent. of them from becoming biological degenerates. They ought to understand the inseparable unity of body and mind, and the subtle ways in which the functions of the two interpenetrate at every point. They ought to know that the human body is not merely a machine for digesting food and circulating blood and developing muscle, but a marvellous creative instrument, a thing that hungers for skilful activity in every nerve and fibre of it, so that even its physical health is not attainable until you have satisfied its hunger for skill by one means or another. Your drill sergeant, your muscle trainer, your professional gymnast, your football coach may be good fellows enough for their business; but as exponents of physical education, may the Lord deliver us from all such! This is a calling that demands educated men and women, a profession that is waiting for the best types of both. Training colleges on these lines are sorely needed; I have no doubt we shall get them in course of time; and we shall get them all the sooner if the medical profession will help us. Four or five are already in existence for the training of women. They are doing admirable work. And perhaps I may say in passing that so far as my observations go the liberal education of the body is more advanced in the girls' schools than it is in the boys'. For one thing, it is less obstructed by competitive athletics, which often have the effect in boys' schools of sacrificing everything to the production of a team of star players, highly conducive to the team spirit, no doubt, *in the team*, but not so fruitful in that way for the vast majority who lack the special aptitudes of the star player and stand on the side lines while the champions perform.

The Philosophical Background

Behind all I have been trying to say there are certain philosophical ideas which I have touched upon but not tried to elaborate: before this audience it is unnecessary that I should do so. There is the idea of the inseparable unity of mind and body, which makes of the one a gateway into the other. For ages past the education of human beings has been dominated, I might almost say cursed, by the notion, derived from a long discredited philosophy, that mind and body are two separate things; the mind a celestial, superior thing which has got itself mysteriously hitched on to a terrestial and inferior thing called the body; the result being that the education of the body, if not neglected altogether, has got divorced from the education of the mind and entrusted to people of inferior status to correspond with its own inferiority. The other idea I have touched upon is one that comes down to us from Aristotle, and is really only another version of the body's inseparable unity with the mind; I mean the conception of the human body as a creative instrument, adapted for skilful activity in a thousand forms, and never complete as a body, never in health as a body, until it finds an outlet for the skill-hunger that animates every fibre of it. It is not for me to instruct the Royal College of Physicians on the nature of the human body. But may I appeal for your close attention to this aspect of its nature? May I ask you to recognise that we educational reformers, who are out to give the body the liberal education which its creative nature demands, we who are trying to find satisfaction for the skill-hunger that is innate in every human being, may I ask you to recognise that we too have something to contribute to the *health* of the community, and that we are companions in arms with you in making war on biological degeneration—the greatest of all the dangers now threatening our urban civilisation. May it not be that our respective functions—yours as physicians, ours as educators—meet at that point?

Do I need an excuse for bringing these thoughts before you? I hope not. I am told by those who know about the matter that preventive medicine is taking a larger and larger place in the practice of medical science. Such a change cannot fail to be attended by far-reaching social consequences. Preventive medicine, if I rightly understand it, is capable of almost unlimited expansion. As a layman I do not see how it can stop short of including much that now falls into the field of education. A bad system of education might effectually thwart all that preventive medicine is trying to do. There must at least be harmony between the two. For that reason I think it likely that as time goes on we shall see a closer and closer alliance between the medical profession and the educational. Unfortunately there exists a profound ignorance in the public mind about preventive medicine, only to be matched by a similar ignorance about education. May I tell you a story to illustrate this—a story I recently heard in America? A dear old lady had been listening one night to a lecture on the wireless extolling the value of preventive medicine. Either the lecturer's exposition was singularly defective or the old lady must have nodded as she listened, for next morning she telephoned to her chemist to send her at once two bottles of preventive medicine with full directions about the dose. The conception of medicine as something you get out of a bottle and put into your stomach is, as you know, widespread. There is a parallel conception in the educational field—the idea that education is something that you get out of a book and put into your head. Which of the two conceptions does more harm it would be difficult to say; but they are obviously near akin.

Alliance between Physician and Educator

That suggests the terms of an alliance which might at once be formed between the physician and the educator. If we will help you in breaking down the popular delusion about *bottles*, will you help us in breaking down the popular delusion about *books*? Speaking in less figurative language, may I plead with you to enlarge your conception of preventive medicine, if you have not done so already, till it includes all that I have meant by a liberal education of the body as a creative instrument. Will you come to the help of the educational reformer who is trying to persuade the public, in the face of enormous ignorance and prejudice, that the health of the human body is impossible so long as its creative aptitudes are suppressed and its hunger for skill left unsatisfied. Will you help us in promoting creative education, based on a liberal education of the body as its natural and necessary foundation? Will you

help us in breaking the strangle-hold which the system of scholarships, leaving certificates, and matriculation tests now has on our public education? Will you come to the help of Aristotle, with his immortal doctrine of mind and body as inseparably one? Will you come to the help of the Lord against the mighty?

HÆMATURIA *

By Andrew Fullerton, C.B., C.M.G., M.Ch. Belf., F.R.C.S.I., Hon. F.A.C.S.

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(*Concluded from p. 1095*)

AFFECTIONS OF THE URETER

Injury to Ureter (*6 cases*).—I have cystoscoped five cases of injury to the ureter, one caused by a fracture of the pelvis in civil practice, and four by gunshot wounds seen during the war. The hæmaturia is not, as a rule, serious. The most important diagnostic sign is urinary fistula in gunshot wounds and extravasation in the line of the ureter in other injuries. I have used opaque solutions to localise the lesions and to assist in the diagnosis of these cases, and have published the method in detail.[1]

New Growth in Ureter (*1 case*).—The patient, a woman aged 76 years, had symptoms dating back for ten or twelve years, when she had her first attack of hæmaturia. When seen by me the right kidney was found to be considerably enlarged. Per vaginam and per rectum a firm oval swelling about the size of a walnut could be felt in the line of the right ureter just proximal to the bladder. Cystoscopy revealed a severe degree of cystitis. The right ureteric orifice was occupied by a shreddy necrotic mass, which did not appear to be hard and which could be moved about by the ureteric catheter. Radioscopic examination was negative for stone. The projection was probably a polypoid growth which had obstructed the right ureter and caused hydronephrosis.

AFFECTIONS OF THE BLADDER

Cystitis (*190 cases*).—Hæmaturia was found in 190 cases of cystitis. In most it was moderate in amount and was often only discovered on microscopical examination. When visible it was generally of the terminal type, occurring in the form of a few drops of blood at the end of micturition. In some cases, especially in those known as hæmorrhagic cystitis, blood was mixed with the main part of the urine, although more pronounced in the last portion. In these hæmorrhagic cases streptococci were frequently present, and ecchymoses were seen scattered over the mucous membrane. In the ordinary case the most frequent organism was the *B. coli communis*, but staphylococci, *B. proteus*, gonococci, and other organisms were sometimes seen. In many cases no bacteriological examination was made. The frequent association of pyelitis with cystitis should be borne in mind.

Tumours of the Bladder (*135 cases*).—Of the tumours of the bladder giving rise to hæmaturia, 65 were simple papillomata, 68 were malignant growths, 1 was a fibromyoma, and 1 a rhabdosarcoma. In cases of simple papillomata the patient suffers from hæmaturia which may be slight or severe and is generally painless. In a few, however, the growth may block the urinary outlet and the symptoms of obstruction are then added. Still more rarely cystitis is a complication, and the patient suffers from the frequency, scalding, and pain associated with that condition. The hæmorrhage, even from a small papilloma, may be very severe with the formation of clots, which may be passed with much difficulty and pain. The well-known tendency of so-called simple papilloma to become malignant has been amply exemplified in my own practice. It has appeared to me that inadequate surgical interference may, in certain cases, favour the conversion of an apparently benign papilloma into an infiltrating carcinoma. Again, one often sees a crop of small papillomata follow the removal of a single growth, the trauma inflicted by operation preparing the soil for the growth of seedlings from the parent tumour. The dividing line between innocent and malignant epithelial tumours is often difficult to determine, and much experience is necessary in diagnosis. Clinically, the bleeding is likely to be more severe in the innocent forms, whereas the signs of cystitis, with pain and straining, are more common in the malignant growths. On cystoscopic examination malignant papillomatous growths are more stunted, more sessile, more fleshy, and less likely to be surrounded by perfectly healthy mucous membrane. The ulcerative forms of malignant growth generally show areas of necrosis, often with adherent phosphatic deposit. Space will not permit me to describe the rarer forms of tumour met with in this series, but the following case of secondary growth is worth a short notice.

A woman, aged 51, had had the left breast removed for cancer about a year and a half before the present illness. She was admitted to hospital suffering from hæmaturia, the blood being intimately mixed with the urine. Cystoscopy showed at the apex of the bladder a sharply circumcised circular ulcer, about the size of a sixpenny piece, surrounded by radiating folds of mucous membrane. Mr. T. S. Kirk operated and found an ulcer corresponding to the cystoscopic picture. Microscopically the growth proved to be a scirrhus. In this case it is probable that cancer cells had dropped from the falciform ligament on their way to the liver, and taken root on the peritoneal aspect of the bladder.

The diagnosis of bladder tumours is made by cystoscopy and pelvic examination. The tumours are frequently in the vicinity of the ureteral orifice, and may give rise to renal pain on the affected side from obstruction to the ureteric orifice or incompetence of the uretero-vesical valve. The fact that there were in this series no less than 135 cases of bladder tumour, all of them potentially malignant, justifies me in urging early cystoscopic examination as a routine measure in the diagnosis of bladder complaints. Simple papillomata are so easily destroyed by diathermy through the cystoscope, without open operation, that it is criminal to allow a case to drift into a condition in which even the most severe and radical measures are inadequate to effect a cure or even an alleviation of the patient's sufferings.

Injuries to the Bladder (*57 cases*).—Under this heading come 54 cases seen in France during the war. These include a case of rupture of the bladder due to the falling in of a dug-out, and two cases of bayonet wound. Three cases were seen in civil practice, and one of these was a case of gunshot wound of the bladder suffered during the war; the patient was admitted to the Royal Victoria Hospital eight years after his injury. Wounds of the buttock frequently involved the bladder, and foreign bodies were retained in it. In most of these cases the hæmorrhage into the bladder was very severe, but in a few it was

* Read before the Ulster Medical Society.

[1] Brit. Jour. Surg., 1918, vi., 24.

inconsiderable. Leakage of urine from the wound is one of the most important signs of gunshot wound of the bladder. This may appear in the wound in the parietes, or be more or less concealed in the form of extravasation into the cellular tissues or leakage into the peritoneal cavity. Cystoscopy was only possible in the cases reaching the base.

Two cases of rupture of the bladder were cystoscoped in civil practice. One was a railway porter who had been caught between a railway carriage and the platform. On admission to the hospital he passed blood. The abdomen was explored for ruptured bladder but, although there was some subperitoneal extravasation of blood, the peritoneum was not torn. The patient was cystoscoped a fortnight after his injury. There were still a good many clots in the bladder and several dark-coloured rents were seen in the left wall. While I was examining him a gush of hæmorrhage took place and obscured the view. This was secondary hæmorrhage from a ruptured right kidney, which was subsequently removed.

The second case occurred during one of the Tourist Trophy races held in Belfast. A mechanic, aged 23, who was assisting in the removal of a car in which he and the driver had crashed, was run into by an oncoming car, and the patient was pinned against his own car. He was admitted almost immediately to hospital, complaining of severe abdominal pain. He had not been able to pass water during the race, and was unable to do so on admission. A catheter withdrew 10 oz. of blood-stained urine. Cystoscopy showed blood in the bladder and what appeared to be a contused area at the dome, with a large clot adherent. I decided against operation and had the patient carefully watched. During the night he complained of generalised abdominal pain, and my house surgeon found the abdominal muscles rigid. The abdomen was opened by Mr. I. Fraser, who found a transverse rupture on the peritoneal aspect of the bladder admitting three, or perhaps four, fingers. All the coats of the bladder were not ruptured at the same level, the peritoneum forming a sort of flap. The peritoneal cavity contained a large quantity of yellowish-red clear fluid. The bladder was closed by continuous catgut sutures and the patient made a good recovery.

The failure of the general rules for diagnosing ruptured bladder in this case is significant. The opening at the dome was evidently in the form of a valve and sufficient fluid was retained to allow of cystoscopy. The adherent clot concealed the rent in the bladder wall. This case is instructive, and the lesson it teaches will not be lost on me or my assistants.

Vesical Calculus (*51 cases*).—These calculi were of all sizes and shapes. Some of them had a nucleus of oxalate of calcium which had descended from the kidney; some of them had formed around foreign bodies, such as portions of bone, fragments of catgut, and out-of-the-way foreign bodies such as hairpins; and some of them were of the familiar phosphatic variety so common in cases of chronic cystitis. Uric acid calculi were comparatively rare. I have one large stone in my collection formed entirely of uric acid which gave no shadow with X rays, and I have recently removed a calculus with a nucleus of oxalate of calcium and a thick crust of uric acid. The radiograph of this calculus shows the difference in shadow given by its two constituents. All cases of vesical calculus do not give rise to hæmaturia, or at least in such degree as to be recognised as such. I have notes of 83 cases of stone in the bladder, and in only 51 was the presence of blood in the urine mentioned. The signs of stone in the bladder are sometimes obscure and the calculus is occasionally only accidentally discovered. Cases of severe cystitis are often labelled stone, and the symptoms are very similar. As a matter of fact, the symptoms of stone are due in large measure to the cystitis which generally accompanies it. Terminal hæmaturia, pain at the point of the penis, and sudden cessation of the stream are symptoms not confined to stone. They may occur in cystitis, in enlarged prostate, and in cases of papilloma which obstruct the internal meatus. The diagnosis is easily made by cystoscopic examination. Radiology will sometimes fail. Hæmaturia in cases of stone is generally moderate in amount, but I have seen several cases in which rather profuse hæmorrhage has occurred.

In this connexion I might mention a case in which a boy, aged 17 years, introduced a quantity of plasticine through the urethra into his bladder, using his fingers only. He got rid of it some time later by massaging the urethra from behind forwards, but the portion that had been introduced into the bladder remained. He complained of difficulty of micturition, spasms, and rather severe hæmaturia. Cystoscopy showed a quantity of bluish plasticine in coils on the base of the bladder. The plasticine was removed by breaking up the coils with a lithotrite and washing out with a Bigelow's evacuator.

Ulceration of the Bladder (*16 cases*).—Ulceration of the bladder is seen most frequently in tubercle and in malignant disease. Superficial ulceration is sometimes seen in cystitis, calculus, and foreign body. I have had one case of extensive ulceration in which the mucous membrane of about one-sixth of the bladder sloughed, leaving the muscular coat exposed. This was attributed to mercury perchloride solution used to wash out the bladder, but it may have been due to an infection; unfortunately a bacteriological examination was not made. The hæmaturia in the 16 cases of ulceration of the bladder not due to tubercle or malignant disease was moderate.

Ruptured Vessels of Bladder (*8 cases*).—The vessels of the mucous membrane of the healthy bladder rarely rupture. Severe straining appears to be capable of causing this accident, especially if there has been interference from any cause with the venous return from the bladder. I have had eight cases in which rupture of the vessels of the bladder had apparently taken place. One was a case of retroverted uterus, one had high blood pressure, and one occurred during pregnancy.

Tuberculosis of Bladder Secondary to Tuberculosis of Epididymis (*5 cases*).—As I have already stated, tuberculosis of the bladder is nearly always secondary to tuberculosis of the kidney. A few cases are seen in which the infection seems to have originated in the prostate, vesiculæ, or epididymis. There were five cases in this series in which the infection was not apparently due to a focus in the kidney, but was associated with an obvious deposit in the epididymis, prostate, or seminal vesicle. The ulceration resembles that found in infection of renal origin.

Bilharzia Hæmatobia Infection of the Bladder (*4 cases*).—Three of these cases were in soldiers who had served in South Africa, and one whose only foreign service was in Mesopotamia. The symptoms were the passage of blood at the end of micturition, with a little frequency perhaps, but no pain. The urine in all four contained the characteristic ova with terminal spines. The appearances seen with the cystoscope were somewhat as follows. The mucous membrane in places was dull red, thick, and raised. Scattered over it were small raised white nodules varying in size from that of a pin's head to that of a hemp-seed. These were collections of ova. Small breaches of surface and hæmorrhagic patches in the neighbourhood of these nodules were seen in some places. Tartrate of antimony, administered intravenously, was the treatment adopted. I have lost sight of them, but I understand that this treatment is attended with good results.

Diverticulum of the Bladder (*1 case*).—In this case rather severe hæmorrhage took place.

The patient was a woman, aged 57, with chronic cystitis, a somewhat hypertrophied bladder, and two diverticula, one the size of a marble and one the size of a walnut. A growth was suspected, but cystoscopy showed diverticulum with hæmorrhagic patches on the anterior wall of the bladder. The cause of the hypertrophy and sacculation was not apparent.

Congenital Obstruction at Neck of Bladder (1 case).—This was a man, aged 40, who had had difficulty in passing his urine since he began to go to school.

This went on until finally he was quite unable to pass water and had to use a catheter. Cystoscopy showed a hypertrophied inflamed bladder, with sacculi between the muscular bundles. The obstruction was found to be due to a tongue of tissue covered with mucous membrane, projecting upwards from the lower margin of the internal meatus. Removal of this by suprapubic cystotomy relieved the patient.

Malignant Growth in Pelvis Ulcerating into Bladder (1 case).—In this case, a man aged 54, there was a fixed lobulated mass in Douglas's pouch which had encroached on and ulcerated into the bladder. He was passing blood and pus in his urine. Cystoscopy showed a lobulated bald projection into the bladder, with a white area of necrosis at its convexity. This case was inoperable and was not followed up.

AFFECTIONS OF THE PROSTATE

These consisted of 107 cases of enlarged prostate (including malignant disease) and 8 cases of prostatitis and prostatic abscess. Enlargement of the prostate is one of the most frequent causes of hæmaturia, and the bleeding may be very severe, with the formation of clots which may render micturition or even relief by catheter absolutely impossible. The blood may come from the prostatic urethra or from vessels in the mucous membrane covering an intravesical projection. The practitioner is in a difficulty when confronted with such a case. Generally the patient is in great distress and is crying for relief. The eye of the catheter is quickly blocked by clots, and any effort to dislodge these by injecting fluid through the catheter only increases the patient's agony. A specially constructed catheter which can be opened at the tip when the latter has entered the bladder and been pushed up to a region free from clots may be tried. Failing this, suprapubic puncture by a suitable trocar and cannula, or even cystotomy, may be necessary. If the bladder is opened it should be drained, and prostatectomy should be postponed until the patient is in a more suitable condition for operation. Packing the bladder is never necessary or desirable. If the bleeding does not cease it can be arrested at once by a hæmostatic bag such as is used to control hæmorrhage after prostatectomy. It is reasonable to assume if a patient has an enlarged prostate that any hæmorrhage is due to this condition, but a word of warning is necessary. Other causes in the bladder such as papilloma, malignant disease, or stone must be excluded, and the possibility of hæmorrhage from the kidney must be borne in mind. I have more than once had to correct the diagnosis of hæmorrhage from an enlarged prostate on finding some unexpected cause like this.

The hæmorrhage in prostatitis and prostatic abscess was not of great significance. In several of these cases blood was seen in the seminal fluid after emission.

AFFECTIONS OF THE URETHRA

This group includes hæmaturia due to papillomata of the urethra (four cases), ruptured urethra (three cases), calculus in urethra (two cases), periurethral abscess (one case), malignant growth of urethra (one case), and urethritis (one case).

In certain cases of bleeding from the urethra, such as acute urethritis and ruptured urethra, the diagnosis of the source of the bleeding can be made without the use of the urethroscope, but there are conditions, such as polypi and impacted calculi, in which direct observation is necessary, not only to locate the cause of the bleeding, but to carry out the treatment. Examination of the anterior urethra is usually made by the aero-urethroscope, but a word of warning is necessary. The injection of air into the urethra, especially when the tube fits tightly into the canal, is not without danger, and I have seen one death from air embolism, and at least two cases in which alarming symptoms occurred. Hæmorrhage may be arrested and the urethra anæsthetised by injecting into it a mixture of cocaine and adrenaline before examination. I have never seen toxic symptoms with this combination, and it enables the anterior and posterior urethra to be examined and treated with very little pain and absence of the annoying oozing of blood, which otherwise is apt to obscure the view.

The posterior urethra is difficult to examine, and for that reason probably has not received the attention it deserves. The verumontanum and the openings of the ejaculatory ducts are deeply buried and apparently "born to blush unseen" in the dark recesses of the urethra. They are, however, the root of a great deal of the misery that erring flesh is heir to, and the urologist will be wise to practise the difficult technique necessary to expose them to view. The posterior urethroscope through which a running stream of water is directed on the part to be examined is the most suitable apparatus for this investigation. Blood and pus are washed away, and many interesting details in this small corner of the human anatomy will be disclosed. The character of prostatic enlargement, the presence of polypi and other obstructions, the state of the verumontanum, the prostatic glands, and the orifices of the ejaculatory ducts can be seen and treatment carried out. The ejaculatory ducts can be catheterised, and substances introduced for diagnosis or treatment.

Polypus of the Urethra (4 cases).—I have notes of two cases of severe bleeding due to polypi in the anterior urethra in the male.

In the first the bleeding was profuse and independent of micturition. Its source was detected by the urethroscope after the injection of adrenaline. Three or four small polypi were seen 2½ inches from the external meatus at a somewhat narrow part of the urethra. The growths were removed by a sharp curette, and the raw surface was touched with a strong solution of silver nitrate. The bladder, curiously enough, was full of blood which had passed back through the relaxed sphincter.

The second case was similar. The polypi were removed by urethral forceps, and the canal was packed with strips of gauze for a few hours.

A third case was that of a woman. There was a polypus at the internal meatus and several others in the proximal portion of the urethra. These were removed by diathermy.

In a fourth case, a male, a congested, raised, almost papillomatous area was found behind the verumontanum. This was treated by the instillation of a strong solution of silver nitrate.

Ruptured Urethra (3 cases).—Two of the three cases mentioned in this series were seen directly after the accident, and were dealt with by perineal section, removal of blood clot, and suture of the ruptured urethra. Both of them have been under observation, one for eight years and one for six years, without the formation of stricture. The third case was treated by the expectant method, and is suffering from a stricture requiring periodic dilatation.

Calculus Impacted in the Urethra (2 cases).—In the first of these cases the stone was situated just inside the meatus externus and was easily removed. In the second the stone was seen in the prostatic urethra by the urethroscope. It was pushed back into the bladder and removed by litholapaxy. The bleeding in both these cases was trifling.

Urethritis and Periurethral Abscess (2 cases).—The hæmorrhage in these cases was inconsiderable, and was treated by dealing with the underlying inflammatory condition.

Malignant Growth of Urethra (1 case).—This was in a woman, aged 46, and took the form of a hard collar surrounding the distal half of the urethra, which bled freely on the passage of a catheter. Radium needles were inserted on two occasions, and the growth has apparently disappeared. No biopsy was made. Secondary effects were cystitis and pyelitis on the left side.

Treatment of Hæmaturia

In severe cases the patient should be kept at rest in bed, and morphia, if not contra-indicated, should be administered. Calcium chloride or lactate should be given for a few days. Preparations of ergot may be tried, and sterilised horse serum or inhalation of carbon dioxide, as recommended by Almroth Wright may be of use. Above all, the underlying cause must be sought and treated. Tumours, calculi, and tuberculosis demand surgical treatment if suitable for operation. Renal hæmaturia of the type known as "essential" may tax the resources of the surgeon to the utmost. Decapsulation, incisions into the pelvis to deal with the papillæ, if involved, and incision into the parenchyma have all been tried in cases suggesting such treatment. If the surgeon is satisfied that no grave disease is present, instillation into or irrigation of the pelvis of the kidney with solutions such as those of silver nitrate may succeed in arresting the hæmorrhage. Removal of the offending organ is a radical procedure only justifiable if all other methods fail and the patient's life is in danger. To control hæmorrhage of bladder origin, pending more radical measures, adrenaline may be employed. A more lasting effect may be produced by irrigation with silver nitrate solution. If massive clotting has taken place, an evacuating catheter, similar to those used for litholapaxy, may be used to remove the clots. It may even be necessary to perform cystotomy. Raising the foot of the bed by diminishing the blood-supply may be of service in some cases. I have never found it necessary to pack the bladder. Bleeding from the anterior urethra can be arrested by pressure. Bleeding from the bulbous or membrane urethra may be controlled by pressure applied to the perineum. Finally, no patient ought to be allowed to die of hæmorrhage without an attempt being made to restore him by blood transfusion or intravenous injection of such preparations as gum saline solution.

HYPERTENSIVE RETINITIS

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The changes in the fundus oculi in cases of high blood pressure, whether primary or following upon renal disease, have been the subject of many papers in the last fifty years, some written by the ophthalmologist and others by the clinician. The result has been a certain confusion in terminology, and this, in all fairness to the ophthalmologist, must be attributed to the clinician, whose views on the relationship of high blood pressure to renal disease have not, even now, reached a conclusive stage.

The retinal changes which occur in hypertension are usually grouped under the following headings:—

(1) *Retinal arterio-sclerosis* as described by Gunn.[1] The changes are confined to the vessel and are too well known to require description here. Too much importance however should not be attached to the "nipping" at the arteriovenous crossings, as this may be seen in temporary hypertensive states and does not necessarily indicate arterio-sclerosis. Hypertension may be absent.

(2) *Arterio-sclerotic retinitis* was first described by Moore.[2] It is characterised by hæmorrhages or exudate or both, in addition to the signs of retinal arterio-sclerosis. The exudate takes the form of small hard dots or spots which may form a partial star-shaped figure. There is no œdema of the retina or of the papilla. The condition is most commonly seen in persons over the age of 50, in whom hypertension has been present for some years. From the observations recorded below it is probable that the changes in the retina are mainly due to a slowly developing ischæmia, the result of degeneration in the vessel walls, although sudden changes may occur from thrombosis.

(3) "*Albuminuric*" or "*renal*" *retinitis.*—Moore distinguished between two factors in this condition, the one toxic and the other vascular. When the former prevails, cotton-wool patches of exudate and œdema of the retina are prominent and hæmorrhages are scarce; in the latter, retinal arterio-sclerosis is marked, hæmorrhages are more plentiful, and a well-marked star-shaped figure at the macula is usually present. Papillœdema may be present in the severe forms.

The term "malignant sclerosis" was first introduced by Volhard and Fahr[3] in 1914 to describe those cases of "genuine contracted kidney" which showed signs of renal failure. They found that "albuminuric retinitis" was constant in this type. Keith, Wagener, and Kernohan[4] have made a special study of these cases of essential arterial hypertension which run a rapid course, and they introduced the term "malignant hypertension." They used the term "malignant" because of the frequent loss of weight, the occurrence of cerebral symptoms and accidents, the continuous high blood pressure, the severe neuroretinitis, and the serious prognosis.

The histological picture in the kidney in this group of cases has recently been described by Fahr,[5] Bell and Clawson,[6] Fischberg,[7] Shapiro,[8] and others, and the principal findings are a necrosis and an endarteritis of the renal arterioles, especially of the afferent and interlobular branches, with resulting alterations in the glomeruli and tubules which are stated to be different from those found in toxic nephritis. No definite evidence of an inflammatory process is present. The clinical expression of this severe form of vascular lesion is usually a progressive renal insufficiency. Further discussion of this subject is beyond the scope of this paper. On clinical grounds the diagnosis of the so-called "malignant" form of hypertension cannot be made with any certainty. There does appear, however, to be valid histological proof of such a condition. The association of albuminuria and high blood pressure in a young person should not be accepted as necessarily indicating primary renal disease.

Wagener[9] in an earlier paper described the changes seen in the fundus in this group of cases. In the early stage there is a mild degree of papillœdema with peripapillary œdema, a few hæmorrhages near the disc, and at times small soft-edged cotton-wool patches of exudate. In the second stage the papill-œdema may increase in amount and œdema of the retina appears; in addition to the hæmorrhages and cotton-wool patches a few glistening white punctate spots and exudate will be seen. In the third stage the œdema begins to recede from the periphery of the retina; the papillœdema remains, or in some

cases the disc shows a commencing pallor of post-neuritic atrophy. Hæmorrhages are scanty. The shining punctate spots of exudate outnumber the cotton-wool patches, which are now of the deep residual type; there may be a star-shaped figure at the macula. In the fourth stage the disc is pale with blurred edges and the retina appears somewhat atrophic. There may be proliferated pigment, especially in the macular region. Of the 81 cases, 34 showed changes characteristic of the second stage and 43 those of the third stage. As a rule the retinitis was persistent and progressive. In young persons the sclerosis of the retinal vessels may be minimal when the retinitis is marked; in the early stages constriction of the arterioles is striking.

Fischberg and Oppenheimer [7] observe that the discs show no abnormalities in most cases of retinal arterio-sclerosis. They further point out that constriction of the veins at the arteriovenous crossing is seen not only in this condition, but also in temporary hypertensive states such as acute glomerulo-nephritis and the toxæmia of pregnancy. They believe that this appearance is accounted for in these conditions by the fact that in hypertensive states the arterial walls are more rigid than in the normal state. They state that the presence of papillœdema is a most important differential point between the benign and the malignant forms of hypertension. In a series of 189 cases of essential hypertension, the fundus was normal in 13 and the arteries were contracted in 11; in 70 there were signs of retinal arterio-sclerosis, and in 58 of arterio-sclerotic retinitis, whereas in 37 the changes were those of malignant hypertension. The fundus changes in the "malignant form" of hypertension seem, therefore, to be indistinguishable from those seen in the more chronic forms of toxic nephritis. The common and essential factor is raised blood pressure.

ÆTIOLOGY

It has been apparent for some years that the term "albuminuric" or "renal" is unsatisfactory, as this form of retinitis may exist in the absence of any appreciable renal disease (Volhard,[10] Shaw,[11] Fischberg and Oppenheimer, Pines,[12] and others). In the initial stages of acute nephritis, when the changes in the urine are most marked yet the blood pressure remains normal, there is no retinitis. In cases of chronic nephrosis, raised blood pressure and retinal changes are absent, although albuminuria is a marked feature (Epstein,[13] Munk,[14] Bennett, Dodds, and Robertson [15]). The view is now generally held that "albuminuric retinitis" is only found in the presence of raised blood pressure. Fischberg and Oppenheimer have, therefore, suggested that the term "hypertensive" should be substituted for "albuminuric" or "renal." Before considering whether this alteration in terms is justified, the manner in which the retinal changes are produced must be considered.

Formerly it was believed that the retinal changes in hypertension resulted from the effects of a toxin circulating in the blood. No attempt was made to explain how the toxin actually produced the condition. This consists of œdema of the retina due to an extensive infiltration of the retinal layers by a fibrinous exudate which later becomes hyaline. Subsequently this hyaline material is absorbed by phagocytic cells which may contain fat (Moore). There are no inflammatory changes, and therefore the term "retinitis" is a misnomer. Fischberg has, therefore, adopted the word "retinopathy" in its place. Volhard considers that so-called "albuminuric retinitis" is the result of ischæmia of the retinal layers due to spasm of the branches of the central retinal artery; the cause is circulatory, not toxic. In favour of this he cites the definite relationship that exists between retinitis and raised blood pressure, and the clinical observation that every case of "albuminuric retinitis" shows a marked constriction of the retinal arteries. He prefers the terms "angiospastic retinitis" rather than "albuminuric retinitis." Volhard's suggestion as to the part played by angiospasm in this condition received striking confirmation from the clinical observations of Haselhorst and Mylius [16] in a case of eclampsia. They made hourly observations and took photographs of the fundi. They noted marked spasm of the retinal vessels. As the blood pressure rose, hæmorrhages and exudation appeared, accompanied by retinal œdema. After a Cæsarean section the angiospasm passed off and the retinitis slowly resolved.

Friedenwald [17] does not favour this theory of angiospasm. He states that he has examined a considerable number of cases of eclampsia without finding any evidence of spasm, and he attributes the changes to organic lesions in the retinal vessels. In 35 cases histological evidence of retinal arterio-sclerosis was found in every one.

Personal observations of the fundus in cases of marked hypertension in young persons have convinced me that the calibre of the retinal arteries and arterioles is constantly reduced during the active phase of the retinitis and, further, that the retinal changes may appear in the space of a few hours.

The appearance of the brain during life has seldom been observed except in those cases of hypertension with pure papillœdema which have been mistaken for cases of cerebral tumour. Cushing,[18] in order to relieve intracranial pressure, performed a subtemporal decompression in a case of chronic nephritis in a female aged 22, who showed a high-grade papillœdema and very high blood-pressure readings. The dura was under considerable tension. The brain itself appeared "soggy and wet." The blood pressure was at first little altered but subsequently fell. Cushing and Bordley concluded from this case, and from observations made on the cerebro-spinal fluid pressures in other similar cases, that the so-called state of uræmia is largely due to pressure from œdema of cerebral tissue and that "albuminuric retinitis" is in a large part, at least, a local œdema of intracranial origin. In 11 cases of chronic nephritis showing neuroretinitis, Larson [19] measured the cerebro-spinal fluid pressure, and in every instance it was raised, sometimes considerably. He concluded that the papillœdema in such cases was due to increased intracranial pressure.

In a small number of cases of hypertension I have had an opportunity of estimating the cerebro-spinal fluid pressure. In every case in which there was papillœdema the cerebro-spinal fluid pressure was raised; on the other hand, in some the rise was comparatively slight—i.e., 180 mm. of water. When, however, the papillœdema was marked and exceeded three diopters of swelling then there was constantly a considerable rise in pressure. From these facts it seems probable that the papillœdema, if at all marked, is due to increased intracranial tension, the result of cerebral œdema. Local circulatory disturbances appear to be the causal factor in the remainder.

PROGNOSIS

The serious outlook in "albuminuric retinitis" has long been recognised. Miley,[20] in a series of 51 cases of neuroretinitis, found that the average duration of life after the appearance of fundus changes

was four months. Bull [21] in a series of 86 similar cases reported that 67 per cent. died within a year. The presence of papilloedema renders the prognosis more serious. In persons under the age of 40 the most frequent cause of death is uræmia. Occasionally in young persons acute symptoms of generalised vaso-constriction, such as hypertensive retinitis, hypertensive cerebral attacks, and signs of renal dysfunction, pass off and the patient temporarily enjoys fair health. The albuminuria becomes negligible or may even disappear and the neuroretinitis subsides with few remaining signs. The blood pressure, however, remains persistently high despite measures to lower it. This period may last a year or, in exceptional cases, two years, before the patient succumbs to uræmia or, more rarely, to a cerebral hæmorrhage or heart failure.

CASE REPORTS

It is fully realised that the cases here reported fail to establish the existence of a hypertensive retinitis without any evidence of renal disease. It is difficult, with our present inaccurate clinical knowledge of the response of the kidney to circulatory disturbances, to classify certain cases of hypertension showing moderate or mild degrees of albuminuria unless the case comes to autopsy. Of the four cases which have been chosen for the purpose of this paper there was no history of previous renal disease or its usual antecedents, except in Case 3, in which an attack of "septic tonsillitis" had occurred two years previously. Apart from Case 1, the degree of albuminuria was small and would scarcely justify the adjective "albuminuric." The constant and outstanding feature of these cases was the raised blood pressure.

CASE 1.—A female, aged 24, was admitted to the Middlesex Hospital on Oct. 20th, 1931, under Dr. D. E. Bedford, to whom I am indebted for permission to examine her and report the case. Apart from an occasional headache she had felt well until June, 1931, when the headaches became more severe. On July 3rd she had a severe frontal headache and vomited. At the same time she experienced in the hands and feet a pins-and-needles sensation which lasted for about 15 minutes, and the vision in the left eye became blurred. On two subsequent occasions similar symptoms appeared. Since July there had been nocturnal frequency of micturition and she had lost 10 lb. in weight.

On examination the cheeks appeared well coloured but the remainder of the face was somewhat pale. Both discs showed approximately five diopters of swelling. There was a severe retinitis, especially in the macular region. Scattered over the retina were areas of exudate varying in size, the majority being hard-edged but a few having a softer outline. The arteries were markedly constricted but showed little or no evidence of arterio-sclerosis. The heart was slightly hypertrophied. The blood pressure was 220/150, and the cerebro-spinal fluid pressure 290 mm. of water. There was no œdema of the feet. The urine contained a considerable quantity of albumin, occasional red cells, and a few hyaline casts. The blood-urea was 26 mg., the non-protein nitrogen 26 mg., and the cholesterol 250 mg. per 100 c.cm. The urea-clearance test (McIntosh, Moller, and Van Slyke [22]), by means of which the amount of blood cleared of urea per minute is estimated, gave a result equal to 36 per cent. of normal.

When seen again on June 10th, 1932, she stated that she had been free from headache since leaving hospital except at the menstrual period. She had gained 1 st. 7 lb. in weight. She had not been troubled with nycturia. For the past four months she had been working full time in a cigarette factory. There was no obvious pallor of the face. There were now about two diopters of swelling of the nerve head instead of five. No fresh exudate or hæmorrhages were seen. There was a star-shaped figure at each macula. The arteries were less constricted and early signs of arterio-sclerosis were present. The blood pressure was 215/140. The urine contained a trace of albumin but no casts.

This case is reported because it lends support to the angiospastic theory of hypertensive retinitis. Concurrently with the appearance of blurred vision a pins-and-needles sensation was experienced in the hands and feet, and this can only be explained by spasm of peripheral arterioles. The severe headache with vomiting which accompanied these attacks is also experienced in certain cases of hypertension and may be caused by cerebral angiospasm (Volhard,[10] Oppenheimer and Fischberg [23]). It appears reasonable to postulate a similar explanation for the retinal changes.

CASE 2.—A female, aged 21, was admitted to the Middlesex Hospital on Jan. 9th, 1932, with a history that for the past 18 months she had suffered from headaches accompanied by nausea. On Dec. 23rd, 1931, she noticed she could not see well with the left eye. Otherwise her general health had been apparently normal. She had had no nycturia and no breathlessness on exertion. For the past four years in winter time she had noticed that her fingers went "white and dead." Accompanying a headache there was a feeling of "coldness all over."

On examination she showed a malar flush with surrounding pallor. Ophthalmoscopic examination showed peripapillary œdema but no actual papilloedema, a moderate degree of retinal œdema, well-marked constriction of the arterioles, a number of cotton-wool patches, and a few perivascular hæmorrhages near the disc. In the macular region on the left side there was a partial star-shaped figure. There were signs of early hypertrophy of the left ventricle. The blood pressure was 240/150, and the cerebro-spinal fluid pressure 240 mm. of water. There were 4,860,000 red cells and a hæmoglobin percentage of 80. The urine contained a small amount of albumin (0·05 to 0·1 g. per litre) and a few red cells and finely granular casts. The urea-clearance test showed a low figure—i.e., 20·6 per cent. of normal. Two further tests showed a gradual improvement, and on discharge on Feb. 17th the figure was 66 per cent. of normal function. This corresponded with a decrease in the amount of albumin and disappearance of the red cells. The blood pressure gradually fell to 165/115.

The patient was seen again on June 3rd. Since leaving hospital she had felt much better and had been free from severe headache except on one occasion. Nycturia was still absent. Examination of the fundi showed little change. There were a few fresh cotton-wool patches with a large number of hard round spots, chiefly in the macular region. The arteries were still constricted but no definite signs of arterio-sclerosis were seen and there was no elevation of the papilla. The urine contained a slight trace of albumin. The blood pressure was 258/168 (lowest of three readings). Her weight was constant.

The striking feature in this case was the comparatively mild degree of albuminuria and hæmaturia with a poor response to the urea-clearance test. Subsequently the renal condition improved considerably. This case may be considered either as an example of chronic nephritis with an exacerbation of the toxic process, in which case œdema, anæmia, or a history of nycturia might have been expected, or as an ischæmic nephritis, due to pre-existing hypertension with temporary vaso-constriction of renal vessels. The prognosis in this case is obviously grave in view of the exceedingly high diastolic blood pressure.

CASE 3.—A male, aged 28, was admitted to the Middlesex Hospital in January, 1931. His previous health had been good except for occasional dull frontal headaches. Recently his vision had become misty. Since October, 1930, he had been obliged to rise once at night to micturate. In 1928 he had a septic tonsillitis.

On examination the face appeared somewhat pale. There was slight bilateral papillitis with peripapillitis and considerable œdema of the retina. Profuse hæmorrhages and exudate, mainly in the form of cotton-wool patches and a well-marked star-shaped figure at each macula, were observed. The arteries were constricted and in places hidden by exudate; there were no signs of arterio-sclerosis. The heart was not enlarged. The blood pressure on admission was 205/125. The pressure of the cerebro-spinal fluid was 180 mm. of water. The blood Wassermann reaction was negative. No œdema was present. The urine contained a trace of albumin but few casts. The blood-urea was 45 and the non-protein nitrogen 37 mg. per 100 c.cm. Several septic teeth were removed. The highest blood-pressure reading in hospital was 200/140 and the lowest 165/114. On discharge in March he was free from headaches.

In September he was readmitted. Headaches had been few. The neuroretinitis had considerably subsided, but the vessels now showed early signs of arterio-sclerosis. The blood pressure was 202/132. The urea-clearance test gave a figure equal to 100 per cent. of normal. Fresh examination in February, 1932, showed a further resolution of the neuroretinitis and no measurable papillœdema. The lowest of several blood-pressure readings was 200/130. The urea-clearance test gave a figure of 70 per cent. of normal. Very faint albuminuria was present. On May 30th he reported himself as feeling well. Nycturia had been absent for the past three months. His weight had remained constant. The fundi appeared the same except for a fresh hæmorrhage above the left disc. The blood pressure was 234/148. The urine contained a trace of albumin. The urea-clearance test gave a result of 95 per cent. of normal.

Although a typical "albuminuric retinitis" was present in this case at the onset, at no time did the urine contain more than a trace of albumin. In view of the persistently good figures obtained by the urea-clearance test it is probable that this is a case of essential hypertension. The prognosis is obviously grave in face of the high blood pressure figures, but it is of interest to note that he has been doing his usual work during this period.

CASE 4.—A married woman, aged 44, was first seen at the Middlesex Hospital on Oct. 18th, 1928, when she complained of a severe headache from which she had suffered for three days. There was a history of typical attacks of migraine for some years. Examination of the fundi showed a moderate degree of bilateral papillœdema and one recent hæmorrhage below the right disc. The heart appeared normal in size. The blood pressure was 140/90. There was a slight trace of albumin in the urine. She was admitted under Dr. E. A. Cockayne for observation on Nov. 2nd. There was no evidence of cardiac enlargement. The blood pressure was 140/80. The urine contained no albumin. The blood Wassermann reaction was negative. The blood-urea was 36 and the non-protein nitrogen 26 mg. per 100 c.cm. On Dec. 28th she attended Dr. G. E. Beaumont's out-patients because of severe pain in the left chest. The blood pressure was now 225/150. The urine contained a moderate amount of albumin.

She was not seen again until April 16th, 1931. She stated that since 1928 she had managed to carry on with her work, which was that of a teacher, and that her health had been fair apart from insomnia, occasional headaches, and shortness of breath. Three days previously, on attempting to get out of bed in the morning, she found that she had no strength in the right arm or leg; she also had some difficulty in expressing herself. Power in the right side improved the following day. She was admitted on April 17th.

On examination she appeared worried and apprehensive. There was no obvious pallor of the cheeks. There were approximately two diopters of swelling of each disc. There was one recent flame-shaped hæmorrhage below and to the outer side of the right disc. A few scattered hard-edged spots of exudate were seen in either retina. There was a marked degree of retinal arterio-sclerosis. The apex-beat could not be felt. The second aortic sound was accentuated. The blood pressure was 215/120. A trace of albumin was occasionally present in the urine but no red cells or casts were seen. The blood-urea was 34 mg. and the non-protein nitrogen 30 mg. per 100 c.cm. There were signs of a slight right-sided hemiplegia. The cerebro-spinal fluid pressure was approximately 300 mm. of water on two occasions. During her stay in hospital she had several attacks of true angina pectoris, the longest attack lasting 15 minutes. She was discharged on April 25th. When re-examined in May, 1932, no obvious change in the fundi was noted. The blood pressure was 236/140. The urine contained no albumin or casts.

The fundus changes differed from those present in the three previous cases. Retinal œdema was absent; the retinal changes were characteristic of an arterio-sclerotic retinitis. Papillœdema was associated with a considerable rise in cerebro-spinal fluid pressure. The absence of a raised blood pressure when she first came under observation was puzzling. Probably she was subject to hypertensive crises and during one of these the neuroretinitis had developed. When I saw her the blood pressure had returned temporarily to normal. Six weeks afterwards, accompanying an attack of angina pectoris, there was a marked rise in blood pressure. This suggests that the angina was merely the local expression of a widespread arteriolar constriction. Of interest is the exceptional duration of life after the first appearance of the papillœdema—namely, three and a half years.

CONCLUSIONS

The term "hypertensive" should replace that of "albuminuric" or "renal," as suggested by Fischberg and Oppenheimer, because the retinal changes, usually described under these names, may occur in the absence of any appreciable renal disease. Moreover, evidence is accumulating in favour of the view that, in certain cases of hypertension with albuminuria, the kidney is merely sharing in the effects of a widespread arteriolar constriction, the results of which may also be apparent in the fundus, brain, heart, and extremities. It is true that the resulting changes in the kidney frequently lead to a fatal termination in uræmia, but this fact does not warrant the use of the adjectives "albuminuric" or "renal." In other cases, a form of true nephritis has been the cause of the hypertension; the latter, however, is the agent responsible for the retinal changes. The adjective "hypertensive" expresses the essential factor—namely, hypertension—whether this precedes or follows renal disease. This form of retinitis is commonly seen in persons under the age of 50. The hypertension, which is usually marked, may develop rapidly or, having been present for some years, may show a sudden accession. Constriction of the retinal arterioles is the earliest change, and this is followed by retinal œdema, hæmorrhages, and exudate, which initially may take the form of cotton-wool patches. The balance of evidence seems to favour the view that such changes are due to ischæmia. In young persons there may be no signs of retinal arterio-sclerosis at the commencement, and therefore the retinal changes may occur independently of degenerative changes in the walls of the vessels, although, if the hypertension persists, these will share the fate of the arterioles in other parts of the body. Papillœdema, though frequently present, is not a necessary accompaniment of the retinal changes; if mild in degree and accompanied by peripapillary œdema it may be caused solely by local circulatory disturbances. When marked, the principal factor in its production is cerebral œdema. Its presence adds to the gravity of the case.

The analyses recounted were performed in the Courtauld Institute of Biochemistry. I am indebted to my colleagues on the staff of the Western Ophthalmic Hospital for the opportunities of clinical investigation which they afforded me.

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GAS TENSIONS IN THE LATERAL VENTRICLE OF THE BRAIN

BY J. ARGYLL CAMPBELL, M.D., D.SC. EDIN.

(From the National Institute for Medical Research, Hampstead)

ALTHOUGH it is a matter of much interest to medicine and surgery, there has been, so far as I know, no definite information concerning the oxygen and carbon dioxide tensions in the brain. The present experiments represent an attempt to supply such knowledge, and the results indicate that the tensions of the ventricles of the brain do not differ from those of other tissues of the body.

Hitherto the difficulty has been to find a sufficiently accurate micro-method to analyse a small bubble of gas, 0·05 to 0·20 c.cm. Some progress [1] has been made recently in this direction, the absorption of the gases from the bubble during manipulations of the apparatus being avoided in great measure by enclosing the bubble in 80 per cent. glycerol in water and filling the Krogh [2] micro-analyser with the same solution, which does not absorb oxygen, carbon dioxide, and nitrogen too rapidly to interfere with the result.

The lateral ventricle of the brain was chosen as the site for injecting the bubble since it approaches near the surface of the skull of a rabbit, and, further, there is no great risk of damaging the brain tissue, seeing that there is a cavity to receive the small bubble of injected gas. The bubble is left in situ long enough for equilibrium to become established between the gas tensions in the bubble and those existing in the cells lining the cavity of the ventricle.

A small preliminary operation under ether anæsthesia was kindly performed by my colleague, Captain S. R. Douglas, F.R.S., assisted by Dr. J. R. Perdrau, making a small opening (2·5 mm. diameter) in the bony skull of each of three rabbits (2–3 kg.), with a dentist drill immediately over the site of each lateral ventricle, where it is nearest the surface. The position chosen for the opening was similar to that used by Light, Bishop, and Kendall [3] for other purposes.

The animals were allowed 11 days to recover from the effects of the operation and for healing of the scalp wound. The dura mater had been kept intact. A small bubble (up to 0·2 c.cm.) of gas, composed mainly of nitrogen and containing oxygen in varying tensions, 4 to 22 mm. Hg, was injected gently into the lateral ventricle by means of a short (3–5 mm.) and fine hypodermic needle and syringe. The needle was thrust vertically through the skin and dura mater without anæsthetic, the bubble being injected without undue force and the needle withdrawn. That the bubble had been injected into the ventricle was proved later by post-mortem examination. The bubble was left in situ for periods up to 24 hours, and the remaining gas was then withdrawn carefully—especially to avoid contamination with outside air—by means of a syringe armed with a fine hypodermic needle, the dead space of which was filled with 80 per cent. solution of glycerol in water; no anæsthetic was required for removal of the bubble, which was easily withdrawn.

The bubble was then transferred to the lower cup of a modified Krogh apparatus, its cup, capillary, &c., being filled with 80 per cent. glycerol in water. Analysis for carbon dioxide and oxygen were carried out according to Krogh's technique, great care being taken to avoid entry of any air bubbles into the apparatus. The accuracy of this micro-analysis is indicated in Table I. Mixtures of gases with varying carbon dioxide and oxygen tensions were analysed in the Haldane 10 c.cm. analyser, and by Krogh's micro-method, as modified here, and the results compared. The manipulations were carried out, sometimes by J. A. C., and sometimes by C. P., the readings of the capillary always being confirmed by another. Often the agreement between the results with the two methods is very good and at its worst there is a difference of 8 mm. Hg between the two methods. The size of the bubble analysed in the micro-apparatus varied between 0·060 and 0·150 c.cm. and did not appear to influence the error.

TABLE I.—*Comparison of Analyses*

Manipulator.	CO_2-tensions mm. Hg. Kr.	CO_2-tensions mm. Hg. Hal.	O_2-tensions mm. Hg. Kr.	O_2-tensions mm. Hg. Hal.	Manipulator.	CO_2-tensions mm. Hg. Kr.	CO_2-tensions mm. Hg. Hal.	O_2-tensions mm. Hg. Kr.	O_2-tensions mm. Hg. Hal.
J. A. C.	34	32	58	54	C. P.	34	31	49	47
,,	28	30	56	55	,,	32	33	42	36
,,	56	53	54	56	,,	34	29	39	39
					,,	71	66	71	66
C. P.	0	0	157	158	,,	83	91	90	91
,,	0	0	152	158	,,	103	111	116	122
,,	34	32	37	41	,,	101	106	122	118

Kr. = Krogh; Hal. = Haldane.

TABLE II

Rabbit No.	Date in 1932 and time.	Gas conditions.	Tensions mm. Hg of gases injected. CO_2	Tensions mm. Hg of gases injected. O_2	Tensions mm. Hg of gases in left lat. ventricle. CO_2	Tensions mm. Hg of gases in left lat. ventricle. O_2
		c.cm.				
1	19/7; 10.50 A.M.	0·20 inj.	0	4	—	—
	20/7; 11.40 A.M.	0·05 wd.	—	—	36	36
,,	25/7; 5 P.M.	0·20 inj.	0	5	—	—
	26/7; 11.30 A.M.	0·16 wd.	—	—	39	25
,,	27/7; 12.30 P.M.	0·15 inj.	0	22	—	—
	27/7; 4.45 P.M.	0·08 wd.	—	—	37	21
,,	27/7; 5 P.M.	0·15 inj.	0	22	—	—
	28/7; 12 P.M.	0·11 wd.	—	—	35	19
,,	28/7; 12·30 P.M.	0·15 inj.	0	22	—	—
	28/7; 3.30 P.M.	0·13 wd.	—	—	39	22
2	25/7; 5.10 P.M.	0·20 inj.	0	5	—	—
	26/7; 10.30 A.M.	0·16 wd.	—	—	38	28

inj. = injected; wd. = withdrawn.

Table II. gives six results obtained for normal carbon dioxide and oxygen tensions in the lateral ventricle of the brain, the former varying between 35 and 39 mm. Hg and the latter between 19 and 36 mm. Hg. These figures resemble the results previously obtained [4 5] for some other tissues as shown in Table III.

TABLE III.—*Limits of Gas Tensions Found in Some Normal Tissues*

Animal.	Tissue.	Tensions mm. Hg. CO_2	Tensions mm. Hg. O_2
Rabbit	Subcutaneous	40–55	16–30
,,	Peritoneal m.m.	40–55	31–45
,,	Bladder ,,	37–63	33–53
,,	Uterine ,,	40–60	35–40
,,	Stomach ,,	40–60	10–20
,,	Small intestine ,,	35–60	25–50
,,	*Brain lat. ventricle* ,,	*35–39*	*19–36*
Men	Pleural cavity ,,	40–47	24–38

m.m. = mucous membrane.

Therefore the circulation in the region of the lateral ventricle of the brain does not appear to be particularly active, and this region does not receive

DR. DOUGLAS MCALPINE: REFERENCES

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a supply of oxygen at any high tension. It is likely that the tissues of other parts of the brain, at any rate during rest, have similar tensions.

For comparison it may be stated that the oxygen tension of arterial blood is generally taken as 100 mm. Hg and that of the mixed venous blood as 40 mm. Hg. The tensions given in Table III. are those in the tissue fluids immediately in contact with the cells.

I am indebted to my assistant, Mr. C. Pergande, for help with the manipulations.

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Clinical and Laboratory Notes

EXOGENOUS OCHRONOSIS

CLINICAL REPORT OF A NEW CASE

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OCHRONOSIS, although a rare condition, has become capable of classification into two groups dependent upon the ætiological factors concerned, and of the cases reported since Albrecht [1] first suggested alkaptonuria as a cause, and Pope [2] indicted carbolic acid, only one, reported by Harston and Soltau,[3] has failed to be reconciled with these agents. The case which is now to be described is an addition to the growing list of ochronotic subjects whose condition is traceable to the prolonged use of carbolic acid.

First seen March 17th, 1931, Mrs. B., aged 57, stated that she had been bedridden for 17 years, and had noticed darkening of the skin during this time. The skin of the face, neck, thorax, and arms was of a pale yellow-brown. The face did not show the butterfly shaped area of pigmentation, although the nasal cartilages were steel blue in colour on intranasal examination. The sclerotics displayed symmetrical patches of pale brown pigment situated midway between the cornea and the canthus, and although the patches were approximately equal in area, they did not seem to be large enough to form the triangular shape which a more advanced case demonstrates. The ears were bluish-black in colour, the aural cartilage being inflexible, a curious feature of ochronosis first pointed out by Osler.

The hands were of deeper hue than the arms, the skin of the dorsum being smoky brown and shading into blue-black on the thenar and hypothenar eminences on the palmar surface, the remainder of which was lighter in colour than the dorsum. Faint scars could be found on the dorsum of the hands and were ascribed by the patient to carbolic acid burns. The legs showed extensive ulceration above and around both ankles with deformity of the talipes equino-varus type. The ulceration had never healed since the occurrence of "white leg" 30 years previously, following her third pregnancy; and carbolic acid as a dressing had been applied for that length of time in purely arbitrary strengths, the patient purchasing strong phenol and diluting it as she saw fit.

She had noticed that the urine darkened on keeping, but had not attached any importance to the fact. A sample when tested had a specific gravity of 1012, the reaction was acid to litmus and contained no albumin. Fehling's test and the ferric chloride test were both negative, and microscopic observation of the deposit revealed nothing abnormal. The urine was allowed to stand exposed to the air in the laboratory for several days when progressive darkening took place from the free surface. After five days' exposure, decomposition had not occurred.

It is to be regretted that the patient would not accept hospital facilities so that an extended investigation, similar to that made by Berry and Peat [4] on another case with many common features, could have been made.

In view of the distribution of the pigment and the history of the application of carbolic acid to the ulcerated legs with a complete absence of any signs of other pigmentary diseases, a diagnosis of exogenous ochronosis is justifiable. It is of interest to note that the phenol had been applied for 30 years, and the pigment is most marked in the ears and hands with only a relatively small amount in the sclerotics. In the previous case,[4] the applications had been made for 35 years with marked pigmentation of the ears, hands, and sclerotics.

Since the assertion of Landois [5] that all cases of ochronosis must be due to alkaptonuria, a statement criticised by Beddard,[6] the number of cases attributable to carbolic acid has reached a point which, on statistical evidence alone, seems to place this agent as the external factor in exogenous ochronosis.

As there are many cases of alkaptonuria which do not show ochronotic changes, it is conceivable that there are cases which have been exposed to long applications of phenol without exhibiting pigmentary changes. Should this be so, it would infer that there are constitutional differences which act as the internal mechanism in the production of ochronosis in individuals who are exposed to either exciting agent. Garrod [7] has ascribed these constitutional differences to inborn errors of metabolism.

Experimentally, the subject does not lend itself to investigation on lower animals because the ochronosis described in them is not the same as in human beings, the changes occurring in the bones rather than in the cartilages. This leaves us with inferential and statistical methods until more precise means are available. In support of the statistical method this case is published.

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PARTIAL HEART-BLOCK DUE TO QUINIDINE

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THE following case is of interest because quinidine produced heart-block.

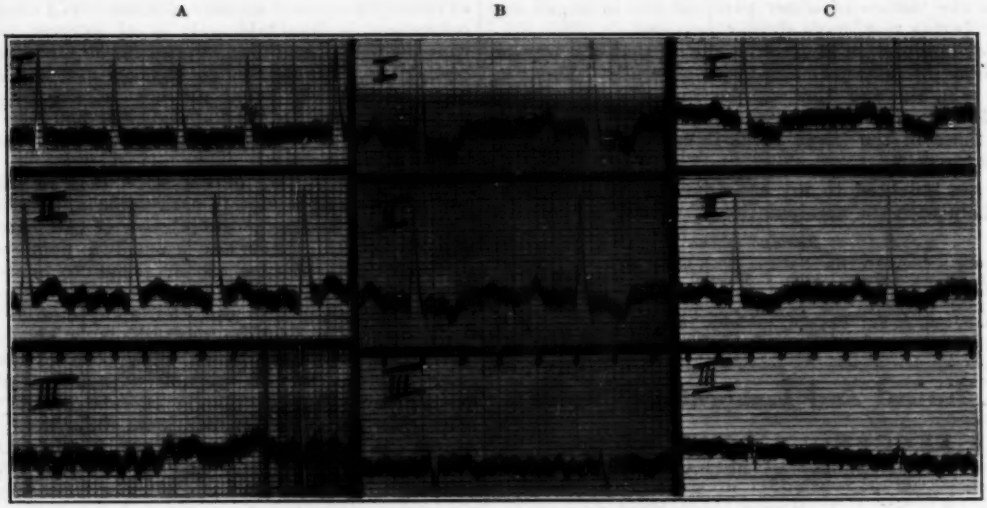
A man, aged 39, without previous illnesses, had suffered from hyperthyroidism for two years. He complained of being weak, nervous, tired, and breathless, and had been unable to work for six months.

The thyroid did not then seem much enlarged, but at one time he had to wear collars two sizes larger than usual. There was moderate exophthalmos with some tremor and much perspiration. Though the signs, other than cardiac, were far from severe and he had not lost much weight, the basal metabolism was increased 34 per cent.

Auricular fibrillation was present and was probably of two years' duration, but an orthodiagram showed that his heart was only slightly enlarged; and though he had not had digitalis, certainly for six months, the heart-rate was under 100 and the signs of congestive failure were slight. The blood pressure was about 130/80 (confirmed after the return of normal rhythm). An electrocardiogram confirmed auricular fibrillation and showed a rather flat T-wave in lead I. (Fig. 1, A).

After rest in bed and digitalisation an attempt was made to restore normal rhythm with quinidine. This was not successful and after the fifth day, on which he took grs. 25, it was stopped because his signs of congestive failure were returning. Though his heart then seemed regular an electrocardiogram showed it was still fibrillating and that the T-waves in each lead were slightly inverted.

FIG. 1



Two weeks later after preparation with iodine (Lugol's solution ℥viii., t.d.s. for 10 days) and digitalis (Nativelle's digitalin gr. 1/240 n.mque), Mr. E. G. Slesinger removed the greater part of his thyroid. A section showed an "adenomatous colloid goitre." There were no untoward symptoms and he quickly improved.

As fibrillation persisted on the ninth day he was given two doses of grs. 5 of quinidine sulphate. The next day he was given three doses of grs. 5 at two-hourly intervals. In the evening, though his heart was still irregular, it seemed different and hard to exclude the return of normal rhythm with extrasystoles. An electrocardiogram was therefore taken and to my surprise showed the return of normal auricular activity with dropped beats due to partial heart-block (Fig. 2). The auricular rate was almost regular and about 96, the P–P intervals varying from 0·61 to 0·65 and averaging 0·63 sec. The ventricular rate was irregular and about 80, because the P–R interval, which was always longer than normal, lengthened from 0·23 sec. to 0·30, to 0·36, to 0·43 sec., after which there was a dropped beat, and the cycle was repeated. The T-waves were deeply inverted in leads I. and II. Quinidine was at once stopped and the next morning normal rhythm was maintained and there were no longer any dropped beats. There were no particular symptoms during this period of partial heart-block.

An electrocardiogram (Fig. 1, B) two days later showed the maintenance of normal rhythm with a heart-rate of 75. The P–R interval was still 0·23 sec. and the T-waves were still somewhat inverted, but there were no dropped beats. A week later an electrocardiogram (Fig. 1, C) showed that the P–R interval was now about the upper limits of normal and the T-waves were deeply inverted. He was then on a maintenance dose of quinidine grs. 2½ n.mque without any digitalis or iodine. He left hospital feeling quite well, but unfortunately it has not been possible to obtain an electrocardiogram subsequently and to learn definitely that normal rhythm has been maintained.

The influence of digitalis in producing heart-block is well known. Quinidine also slows the conduction of, and lengthens the refractory period of heart muscle, and its influence in changing fibrillation and flutter to normal rhythm depends on the latter effect being greater than the former. In this case, although its action was satisfactory in restoring normal rhythm, the slowing of conduction was enough to produce partial heart-block with dropped beats. No doubt this also depended on the reduced activity of the thyroid for larger doses of quinidine before the operation had not produced either of these results.

CARCINOMA OF THE TERMINAL ILEUM

BY CECIL P. G. WAKELEY, F.R.C.S. ENG., F.R.S. EDIN.

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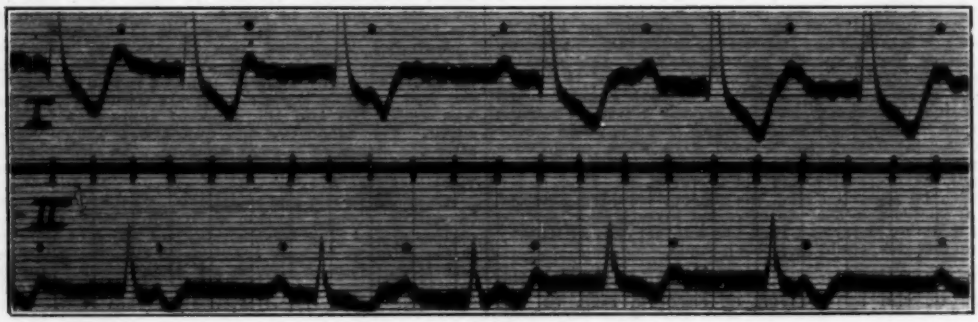
ALTHOUGH carcinoma of the small intestine, the duodenum being excepted, is comparatively rare, yet cases have been more frequently reported of late years. In 1927 I described a case of carcinoma of the terminal ileum upon which I operated in 1924. Excision of the growth and an ileocolostomy were performed. The patient was seen again this year, eight years after the excision of the cancer, because a ventral hernia had occurred at the site of the previous operation. This case is of special interest, for the operation for repair of the ventral hernia

FIG. 2



provided an opportunity for a very full examination of the abdominal cavity, and no sign of recurrence or secondary deposits was discovered.

In a paper read before the section of surgery of the Royal Society of Medicine in 1921 Raymond Johnson [1] drew attention to the fact that carcinoma of the jejunum and ileum is so rare that not uncommonly a surgeon of wide experience has never met a case. Robb [2] reported a case which was under the care of Hey Groves, and states that the terminal ileum may be said to be almost immune to cancerous growths. Ross [3] has recently reported two cases of carcinoma of the ileum and emphasises the rarity of the condition in Australia. Between the years 1922 and 1931, two cases only are recorded in the Melbourne Hospital archives, and during that time some 70,000 in-patients had been treated, autopsies having been held on approximately 75 per cent. of the patients who died in hospital.

The case I am about to describe is the fourth case of carcinoma of the ileum which has come under my care since the war; the other cases have been described elsewhere [4 5]:—

CASE REPORT

A single man, aged 44, was admitted to King's College Hospital on March 17th, 1932, complaining of pains in the stomach and progressive loss of weight.

His first symptom was indigestion, which commenced about six months before admission to the hospital. This

FIG. 1

Skiagram taken 48 hours after a barium meal; it shows dilated coils of small intestine. Little barium can be seen in the colon.

was followed by regular attacks of vomiting, which occurred at intervals of a week or ten days. The patient stated that he noticed in the vomit particles of food which he had eaten several days previously. When the indigestion first started his bowels acted normally, but they have gradually become more and more constipated, and at the present time he experiences great difficulty in obtaining a motion; for the past month an action has not occurred more than about twice a week. In six months he has lost 3 st. in weight; he feels fatigued and irritable, and he has lost his powers of concentration. There is no history of vomiting blood or of malæna, and no suspicion of a coffee-ground vomit. Pain in the stomach occurs prior to an attack of vomiting only. Occasionally the patient may have taken three or four meals without discomfort, when pain, followed by nausea and vomiting, would suddenly occur, and the

FIG. 2

Drawing of specimen showing the annular growth and Meckel's diverticulum.

partially digested food taken in the previous meals would be returned.

On examination the patient was found to be a man about 5 ft. 6 in. in height, who had obviously lost a considerable amount of flesh, and looked anæmic and tired. The tongue was furred and the abdomen distended. Nothing could be discovered on palpating the abdomen or by rectal examination. The abdominal distension, if anything, was inclined to be most marked in the umbilical region. Although many examinations were made no visible peristalsis was apparent at any time. Examination of the vomit revealed partly digested foodstuffs, with an increase of hydrochloric acid; no blood was found either chemically or microscopically. While in hospital the patient vomited every other day. Action of the bowels could only be obtained by enemata.

It was decided to give the patient a barium meal after one of his vomiting attacks in order to discover if by this means further information regarding the causation of the obstruction could be obtained. The barium meal was seen to pass down the œsophagus into the stomach, and thence into the small intestine. There was a definite "hold up" of the barium in the terminal ileum. Fig. 1 shows the state of affairs 48 hours after the commencement of the barium meal. Coils of the small intestine, some of which are in the pelvis, while others are overlying the cæcum in the right iliac fossa, are seen to be very dilated. A little of the barium has obtained entrance into the colon, but very little in comparison with the amount still retained in the small intestine. Exactly 54 hours after he had taken it, the patient vomited more than three-quarters of the barium meal. The X ray examination did not help to diagnose the cause of the obstruction, but it did locate more or less the site of the obstruction—namely, the terminal ileum.

An *operation* was performed on March 24th under gas and oxygen anæsthesia. A right paramedian incision was made, and the rectus muscle displaced laterally. On opening the abdomen coils of very dilated small intestine came into view. The cæcum was found to be collapsed, and on tracing the terminal ileum backwards a Meckel's diverticulum was discovered just proximal to which was a hard annular carcinoma of the ileum. The carcinomatous growth produced a circular constriction of the bowel which was enormously distended above the constriction, but was quite small and collapsed below it. The growth, together with 2 ft. of ileum proximal to it, and 6 in. of gut distal to it was excised, together with a small portion of mesentery. The two openings of the small intestine were closed with purse-string sutures, reinforced with a few interrupted Lembert sutures. A lateral anastomosis was then performed; this procedure was a little difficult owing to the marked inequality in size of the lumen of the two portions of the bowel. The anastomosis was reinforced by an omental graft from a thin, attenuated great omentum.

The patient made a rapid and uneventful recovery, and was able to leave hospital within a month of his operation. He went to a convalescent home for a month, and when seen at the end of May had gained over a stone in weight and had never experienced any nausea or indigestion since the operation.

The *specimen* (Fig. 2) shows a small annular carcinoma of the ileum, almost completely obliterating the lumen of the gut; a small piece of glass rod can be seen in the actual opening through a window cut in the gut wall. About 3 in. from the growth a small Meckel diverticulum into which another glass rod has been passed can be seen. Although the specimen was hardened in formalin, before it was mounted, and considerable contraction must have taken place, nevertheless the great difference in size between the gut on either side of the growth is quite remarkable.

Histologically the tumour was an adenocarcinoma. The growth had invaded the muscle coat of the bowel. There were no infected glands in the portion of the mesentery excised.

There are several interesting features in this case which must be looked upon as uncommon. First, the association of a carcinoma of the terminal ileum with a Meckel's diverticulum; second, end-to-end union of the small intestine was absolutely impossible, owing to the marked inequality in size of the two portions to be united; and third, neither visible peristalsis nor a palpable tumour were discoverable before operation. Further, the X ray examination did not reveal any conclusive evidence regarding the cause of the obstruction.

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MEDICAL SOCIETIES

ROYAL SOCIETY OF MEDICINE

SECTION OF PHYSICAL MEDICINE

AT a meeting of this section on Nov. 18th, with Sir ROBERT STANTON WOODS, the President, in the chair, a paper on the

Differential Diagnosis and Physical Treatment of Spondylitis Deformans

was read by Dr. C. W. BUCKLEY (Buxton). It was fitting, he said, that this condition should be discussed by this section, for little could be done for it except by physical methods. The name covered several conditions differing in pathology; indeed, before the days of radiology, all diseases causing thickening of the spine with articular or bony changes were classed as spondylitis. Ankylosing spondylitis, of which he proposed chiefly to speak, was a disease of young adults, mostly males. Its onset was insidious, usually with some fever and a failure of the general health. Stiffness began, most often, in the lumbar region, and spread centrifugally until the large joints of the limbs were involved. Almost from the first the sacro-iliac joints were implicated; indeed, Dr. Gilbert Scott held that the condition always started in the sacro-iliac joints, but that had not been proved. In two of Dr. Buckley's cases of spondylitis there was also arthritis of the hands and feet, but this was probably due to a distinct process. Unless the patient rested, the ordinary spinal curves became increased—especially a dorsal kyphosis, with compensating hyperextension of the cervical spine. The capacity to move the head was often preserved for quite a long time. If kept at rest, the spine became fixed in the straight position, and the hip-joints also. Careful inspection of the hips revealed early destructive change in the cartilage. Radiography showed that the earliest changes were osteoporosis of the lumbar bodies, and arthritis, proceeding to ankylosis, of the articulations. All the ligamentous structures rapidly underwent ossification, including the outer parts of the discs, which were thus invaded, but not destroyed. The cartilages in the joints broke down and disappeared, but osteophytes did not form. With arrest of the disease, and a tendency to recovery, the rarefied bone tended to become dense again. Dr. Buckley showed a radiogram from a man who was extremely rigid from head to foot but could now walk upstairs. Ossification of the anterior common ligament sometimes occurred, but not always; it was most marked in situations where there was most strain.

Spondylitis osteo-arthritica included a senile degeneration, which was spoken of by Beadle as spondylitis deformans, and conditions resulting from minor degrees of trauma which had affected the discs, causing degeneration of them and the formation of osteophytes as a compensating mechanism. In the true ankylosing spondylitis there was no encroachment on the neural canals, so that the pain felt in some cases in the peripheral nerves could not be due to any considerable compression, only to some fibrous tissue in the canals. There was no bony encroachment. Ankylosis was never complete, but synostosis occurred, and where necrosis of the discs was complete, adjacent vertebral bodies might unite. The kyphosis of adolescence caused marked deformity, but the joints escaped. Various diseases caused forms of spondylitis, especially tubercle, enteric, influenza, and neoplasms. In all these, the vertebral bodies were affected primarily, rather than the discs. The part played by infection in ankylosing spondylitis was not certain; in a large proportion of his cases the intradermal tuberculin test was positive.

In the treatment of ankylosing spondylitis the first consideration was to prevent deformity, and this had been done by rest in bed. Often, however, treatment was not sought until damage had been done and postural and exercise treatments were called for. When the disease was in the active stage the patient was kept in a plaster shell; a fresh one was required, carefully adapted, every three weeks. Hyperextension was used, and breathing exercises were carried out by using a broad firm belt. For applying heat, he preferred the infra-red rays, and he was accustomed to exposing the patient's whole body to ultra-violet rays to improve the metabolism. At a later stage massage was valuable, but it should be applied to muscles, not to the joints. Treatment must be maintained and support continued, otherwise relapses speedily occurred. The chest mobility improved considerably if the vertebral joints had not become ankylosed. As long as the breathing exercises were continued, the chest remained mobile. Of diathermy and X rays for this condition he had no experience. Manipulative measures other than those mentioned must not be undertaken.

DISCUSSION

The PRESIDENT said he felt certain that it was often better that the patient should not know that he had lipping of the bones in the spine, as was clearly shown when cases came into a court of law. If a radiogram was produced showing lipping of the spine, the plaintiff might win his case although

the condition had existed a long time without symptoms—certainly long before there was any trauma.

Dr. J. BARNES BURT said that the division of cases of bony deformity into the two main categories of ankylosis and osteo-arthritis was helpful. Though the spinal joints were so badly affected that they became ankylosed, there were seldom any root symptoms, which showed that the arthritis of the intervertebral joints must be of the dry type which Strangeways described. When sciatica was present it was often due to inflammation of the sacro-iliac joint, not to inflammation of the intervertebral joints. The common symptom of spondylitis osteo-arthritica was sciatica, and in a bad case there was some distension of the joint, with pressure on nerve-roots. When ossification of the anterior common ligament occurred it was, he suggested, purely a matter of strain, for it was mostly found in tall people, or those with a long neck. He hoped all whose practice lay largely with these cases would join in an attempt to discover the ætiology. As a student he was taught that "poker back" was gonococcal, and he still thought it might be the result of a gonococcal change. In treatment no measures likely to do any good should be neglected; to give a man 2 inches of extra respiratory expansion meant an enormous benefit to his general health. He was accustomed to apply the actual cautery for sciatica; though the pain it caused was definite, patients returned for further applications.

Dr. A. MACBETH ELLIOT asked what effect parathyroidectomy would have in the kind of cases under discussion. Oppel, in 1929, had many cases of polyarthritis proceeding to ankylosis, with hypercalcæmia; 55 of these were parathyroidectomised, and in a few weeks many of them were walking. The speaker wondered what effect this treatment would have on young subjects suffering from spondylitis.

Dr. E. P. CUMBERBATCH thought it likely that Dr. Buckley's first group of cases was at first infective, for it was not uncommon to find in them some focus of infection. In the female the focus was generally pelvic, in the cervix uteri; in the male the prostate was at fault, perhaps also the seminal vesicles. This trouble need not be gonococcal, it might be due to hæmolytic streptococci. Such primary infections would cause a secondary metastasis in joints. Dr. Buckley's second group probably owned some disturbance in the endocrine system as the causative factor; they represented a decrescent type of arthritis. Prostatic and cervical trouble could often be cleared up by properly applied diathermy.

Dr. PHILIP ELLMAN pleaded for a more simple classification of joint conditions, especially until more was known as to ætiology. Roughly, cases could be divided into (*a*) inflammatory arthritis, (*b*) non-inflammatory (or degenerative) arthritis.

Dr. VINCENT COATES (Bath) spoke of 12 cases, 6 of which showed rheumatoid arthritis in other parts. Some patients, he said, did not reach the definitely crippling stage which had been depicted. Two of the 12 cases had ankylosing spondylitis which had healed without proceeding further. He hoped more work would be done on the calcium metabolism in these cases. The blood calcium of 8 of the 12 cases referred to was measured, and it ranged from 9·2 to 10·7 mg. per 100 c.cm., a lower figure than in ordinary rheumatoid arthritis. He was sure that a large number of these patients continued to walk about before their condition was recognised; medical advice was not sought until the disability was definite. Much could be done by re-educating movements while the patient was immersed in a pool bath. In assessing improvement it was important to measure vital capacity as well as chest expansion.

Dr. Z. MENNELL said he had had many patients of the kind under care, and what had struck him was that although they might be quite rigid they had not developed lordosis. One patient he had known 15 years, and during that time no bony change had been evident; he was an architect, who engaged in all the activities of his profession normally. When he had a flare-up of pain he took sour milk and was soon without pain.

Dr. GEOFFREY HOLMES (Harrogate) said that when there was a softening of the back, without bending deformity, the type was the osteo-arthritic rather than the infective type. Cases running a temperature and becoming rigid, in which a focus could not be found, did badly. He had a patient with a history of only two years, the symptoms having started after a heavy cold. Radiography of his chest seemed to point to tubercle, and the yield from the sputum was *Staphylococcus aureus* and *albus*, and the nose discharge gave the same flora. Examination showed a general sinusitis. The two conditions might have been no more than a coincidence, and his difficulty was to know whether to recommend an expensive sinus operation.

Dr. BUCKLEY, in reply, said it was his belief that if any considerable number of men over 50 years of age engaged in laborious work were to be carefully examined, quite half of them would show signs of spinal osteo-arthritis without having had any notable symptoms. Such a man might meet with a slight extra stress or strain at his work and have symptoms, and he might then institute a legal claim for compensation alleging a specific incident, whereas the symptoms were no more than the culmination of a gradually increasing disability. He had not noted any marked lowering of the blood calcium in his cases, nor had he found the blood phosphatase above 20, which was the top normal limit. It was always worth while to investigate pelvic infections; there was every reason to believe that these foci affected the spine. The best general division of cases was, he thought, into proliferative and degenerative. When skiagrams showed diminution of rarefaction of bone and a return to normal density of shadow, the patient was clearly getting better.

HUNTERIAN SOCIETY

AT a meeting of this society held on Nov. 21st the chair was taken by Dr. NATHAN RAW, the President, and the Rev. FRANCIS WOODLOCK, S.J., opened a discussion on the

Influence of Faith on Disease

The faiths in connexion with disease were, he said, as wide and varied as on any other subject. The discussion would, he supposed, consider how far faith, whether religious or faith in the doctor, could cure disease. He regarded the philosophy at the basis of Christian Science as impossible to grasp and impracticable to apply. It declared that disease was not real because matter was not real, God being spirit and all in all. Mrs. Eddy's treatment was to tell patients that they suffered only as an insane person suffered, from an illusion. Undoubtedly an immense amount of illness disappeared under Christian Science treatment. Hypochondria was more effectively cured than by any other method, but there was no instantaneous cure of grave organic lesions by any natural powers, whether of mind or medicine.

The next step from complete denial of disease was to assimilate the idea of sickness and sin. The Roman Catholic Church believed that this tendency to-day went rather too far. Sin and sickness were both declared to be contrary to God's will. Those who held that theory about suffering were a long way towards having as much power in healing as the Christian Scientist. That was not, however, the Christian theory of suffering; it implied that every deathbed was the triumph of evil.

The limits of suggestive treatment or mental treatment must lie within purely functional diseases. A sudden organic change equivalent to a creative act would mean that the natural had been surpassed. That was the criterion by which all ecclesiastical courts judged a miracle. Very extraordinary cases were seen, even in the twentieth century; all that could be desired in evidence of something contradicting the known laws of medicine was laid before the courts. It was astonishing that the scientific man did not think it worth while to give his mind to subjects such as Lourdes. People constantly said that if there was a miracle, all rational medicine was at an end, but in fact everything possible must be known of the normal before anyone could claim that it had been transcended.

Dr. ROBERT HUTCHISON said he wished to approach the subject from a purely rational and common-sense point of view. Faith might have a good or bad effect in disease. There was nowadays no disbelief in faith-healing. The patient's faith in his doctor or his bottle of medicine did much to cure him; indeed, the patient who knew the chemical constituents of his medicine was far less likely to be cured. It did not matter what the faith was in; if there was enough of it, it cured, whether it was in the bone of a saint or Purkinje's tract. The greater the object of the faith, the greater its power. The modus operandi of all faith-healing was auto-suggestion, acting through the "mind" via the sympathetic nervous system and the endocrine glands. Father Woodlock believed in something from outside acting on the patient's tissues and effecting an instantaneous change; there ordinary physicians joined issue with him. There were simple explanations of the Lourdes cases: a mistake of diagnosis, or failure of the disease to "play the game." The entirely exceptional thing happened every now and again in disease. The limitations of the healing powers of faith were not set entirely within functional diseases. The pain and the early tissue changes of organic disease might be affected. Doctors were as justified in coöperating with a faith-healer as with a masseuse, provided the case had been properly diagnosed. There doctors should put their foot down, for only by careful diagnosis could disaster be avoided.

Faith might have a bad effect if the patient believed in the wrong things; there was something in the evil eye. People who believed in witches were damaged by witches. If the patient believed that a certain article of food would give him dyspepsia, that food would cause dyspepsia. A large part of the work of a doctor was to dispel bad beliefs and free his patients from their influence.

Dr. WILLIAM BROWN said that both previous speakers had introduced dichotomies that he could not accept. The spiritual could not be separated from the material or the miraculous from the non-miraculous. An experienced practitioner's influence was on the whole man. The spiritual differed from mental only in the point of view: the point of view of value. Value as such was out of time, and so far as we lived a life of value we lived the eternal life here and now. Spiritual healing was going on the whole time so long as life was taken at its full value. The person was not a soul bound to a corpse, but mind and body acting together. Psychology was an integral part of medicine; the physician was the faith-healer if he knew his work. The doctor of the future would be trained in psychology as carefully and axiomatically as he was in physiology to-day. The distinction between the organic and the functional was a false one, which had arisen in neurology. Organic nerve cases were quite hopeless, for nerve-fibres had been destroyed and could not be reconstructed by any means. In any other nervous illness mental treatment might bring about recovery.

From the point of view of causation, a good many patients ought never to have become ill. They had become ill because they had no faith. The faith cure was not auto-suggestion, which held the patient to one idea; this might improve but did not cure. The improvement only became a cure when the active faith state was aroused and sustained. The object of the faith was of great importance; perhaps the word should only be used in its highest sense as belief in an ultimate value, which made it worth while for the universe to continue. For illness there must always be lowering of resistance, and the essential mental factor was fear; being unsure of oneself. Modern psychology was learning the ramifications of fear in early life, as it led to weakness and illness. Over-valuation of the self and anxiety about it was found at the back of all fear. Children must be taught to live boldly, and that would lower the incidence of disease.

Death must be distinguished from disease. Death was inevitable and had its place in the biological scheme. The disgrace was to die before the allotted span. Disease was a mistake and an accident. We had powers of resistance of which the limits were unknown. Analysis and suggestion were complementary, and both should be used. That was true spiritual healing. The miracles of Lourdes might happen, but they were not against Nature; they were Nature. What scientist could say that we knew to-day all there was to know of the vis medicatrix naturæ?

DISCUSSION

Mr. MCADAM ECCLES spoke as a surgeon who had been on three faith-healing committees. He declared that disease was not related to delinquency; God had created bacteria and seen that they were very good. He was still waiting to see a really surgical case cured by faith or spiritual healing. Such cases could be helped towards cure, but had not been directly cured. There was nothing known to science that would replace the destroyed muscles in infantile paralysis. Photographs and radiograms of "miraculously" cured patients were sometimes taken before and sometimes after cure, but both were never available.

Dr. THOMPSON BROWN said that doctors regarded faith as a rather unethical method; their ideal was not faith but wisdom applying useful knowledge. Disease was as natural as health; if a dog had worms God hated neither the dog nor the worms. It was our business to free ourselves from harmful parasites. Not faith, but the hourly activity of every cell gave us our will to live and constituted the vis medicatrix naturæ. The power of faith was simply the power of bodily emotion. Faith in the impossible was the special home of lost causes. Some preferred fables to effort.

Mr. D. C. L. FITZWILLIAMS said that faith did cure The inseparable connexion between functional and organic was insufficiently realised. Knowledge had increased and done away with the miraculous element.

A modern operation would be a miracle to John Hunter.

Father WOODLOCK, in reply, said he agreed with nearly everything he had heard that evening. No Roman Catholic was bound by his faith to believe in a Lourdes miracle, but possibly only a Catholic could consider the subject as a genuine free thinker. He asked his audience to sit down before the facts and see if they could explain them.

Dr. HUTCHISON said that the crux of the discussion was the belief in the miraculous as something different from and altogether beyond the ordinary faith-healing. A scientific man could approach the subject with a perfectly open mind, but at present he did not believe in the miracles because he did not think the evidence was sufficient to convince the ordinary scientific man.

Dr. WILLIAM BROWN said that only medical psychologists were beginning to know about faith-healing—it was not a familiar subject. No one was "merely a doctor"; great scientists were all using the spirit. An open mind was not quite the same thing as an empty mind.

PATHOLOGICAL SOCIETY OF MANCHESTER

AT a meeting of this society on Nov. 9th Mr. P. G. MCEVEDY read a paper on

Aseptic Phlebitis

He distinguished first between "phlebitis from effort" and "chemical phlebitis." Thrombo-phlebitis in one of the large veins might follow unusual *exertion*. It might occur in the lower limbs, more commonly on the left side, or even in the inferior vena cava. It was commonest in the axillary vein, especially the right, and usually in young males. Over 50 cases of this condition had been reported, and the speaker had seen three. Thrombosis of the axillary vein followed some unusual exertion, generally with the arm abducted. The diagnosis was fairly easy, but many cases had been diagnosed as intrathoracic neoplasm. Injection of uroselectan into the forearm vein and subsequent radiography, which demonstrated the collateral circulation, helped in doubtful cases. The condition was generally thought to be a thrombosis of the axillary vein following trauma to the vein wall at the level of the subclavius muscle. The marked blueness of the whole arm and the swelling, both of which might last several weeks, suggested an extensive thrombosis, with some involvement of the surrounding lymphatics, and was not what one would expect from a local trauma. The possible influence of a septic focus had to be considered. Treatment was by gentle exercise and massage, but the patient would most likely be unfit for work for a few weeks.

Chemical phlebitis.—The basis of the modern treatment for varicose veins was to set up an endophlebitis by causing damage to the intima of the vein wall, usually by anticoagulants. This chemical phlebitis differed in many ways from septic phlebitis. It remained limited to the superficial veins, the clot was firmly adherent, and there were no constitutional symptoms. Septic phlebitis was apt to spread to the deep veins, the clot was not firmly adherent to the vein wall, and constitutional symptoms might be marked. These differences accounted for the danger of pulmonary embolism in septic phlebitis and explained why a septic phlebitis should be treated like other septic conditions, by rest, and why the treatment of aseptic phlebitis should be ambulatory. Pulmonary embolism following the injection treatment of varicose veins had been reported in 24 cases. It had generally been due to using unsuitable solutions, injecting veins while the patient was recovering from some operation, and keeping the patient in bed following injection treatment.

Dr. G. S. SMITH read a paper on the Aschheim-Zondek test in pregnancy.

REVIEWS AND NOTICES OF BOOKS

Hookworm Infection

By CLAYTON LANE, M.D., Lt.-Col., I.M.S. (Ret.). Oxford Medical Publications. London: Oxford Univ. Press, Humphrey Milford. 1932. Pp. 319. 25*s*.

HOOKWORM exacts a greater toll of disability and misery than any other disease affecting mankind. Its effects upon industry are so widespread and so damaging that ankylostomiasis was singled out by the Rockefeller Commission for mass attack on a large scale. The experiences gained in this work and the valuable researches which sprung from it are now ripe for record. In providing such a record and in supplying an accurate and considered account of hookworm disease in general Colonel Clayton Lane has rendered a great service to tropical medicine. Moreover, the reader will find here a summary of Colonel Clayton Lane's own original work on the technique of egg concentration and his valuable observations on the migration of the larvæ. The systematic helminthologist will welcome an accurate anatomical description of the three species of ankylostome which inhabit man. *Necator americanus* for instance, at one time thought to be confined to the new world, is by no means so, for in Darjeeling and Bengal a pure necator infection exists, and in Egypt *A. duodenale* is found alone.

The essentials for accurate experimental work on the extra-corporeal body of the hookworm are made clear. Too often these essentials have been neglected and have led to the multiplication of conscientiously conducted hookworm campaigns. How the fallacies may arise has been explained by the author's own method of trapping cultures. It was confidently believed that larvæ die out in the soil in six or seven weeks, but this is not the case as Looss (1911) found them alive after nine months, and Colonel Clayton Lane's experience leads him to believe that under favourable conditions infective larvæ live long enough to carry on infection from year to year. The clinician will welcome the authoritative account here supplied of the route of infection in man and of the pathological changes thus induced—it fulfils a real want. The chapter on direct diagnosis is probably the most important in the whole book, for it is a description of the author's important original work, which has rendered diagnosis much more accurate and has given much help in treatment. After recital of the other methods in vogue, considerable space is devoted to the direct centrifugal floatation method.

The remainder of the book is concerned with clinical symptoms and other ill-effects, to the all-important subject of treatment on which the author holds original views, and, finally, to the methods of prevention. The phrasing might be criticised for the sentences are often very long and somewhat involved, but since the book holds the reader's attention and keeps his mind focused on each point discussed it would be ungracious to complain. A well-selected bibliography closes the book.

Artificial Pneumothorax

Practitioners' Series. By L. S. T. BURRELL, M.D., F.R.C.P. Lond., Physician to Royal Free Hospital. London: W. Heinemann. 1932. Pp. 174. 12*s*. 6*d*.

THIS book is characterised by the close and clear thinking which Dr. Burrell always brings to the discussion of the treatment of thoracic disease. The knowledge here displayed is not that of the theorist, but of the practising physician, and the student, whether under- or post-graduate, who wishes to study the elements of collapse therapy will find experienced helpful guidance. The various types of apparatus employed in artificial pneumothorax, the indications and contraindications for its employment, the conduct of the average case and the methods of overcoming difficulties which may arise in the course of treatment, are all carefully considered. Special chapters are devoted to the treatment of complications and the indications for bilateral and selective pneumothorax, and the surgical measures which may be adopted when artificial pneumothorax fails are briefly considered.

A statement on the jacket of the book is, as often, open to criticism. The book is described as "written for the general practitioner who wants to undertake treatment by artificial pneumothorax himself." Though the operative technique is simple, only demanding a delicate touch and attention to asepsis, special experience is necessary, not only in the selection of cases, but also in determining such questions as the amount of air to be given, the spacing of refills, the recognition and proper treatment of complications, duration of treatment, and so forth, while access to an X ray department is essential at some stages and desirable at all. But though the treatment is one which can be efficiently carried out by the practitioner only in the presence of these circumstances, a knowledge of its main principles is desirable before the special form of treatment is recommended. Attention should be drawn to a misprint on page 107, where "1 in a 100 solution of adrenalin" is given instead of "1 in a 1000."

Individual Sexual Problems

By F. G. CROOKSHANK, M.D., F.R.C.P. London: Kegan Paul, Trench, Trübner and Co., Ltd. Pp. 150. 2*s*. 6*d*.

FORMING one of the medical series of the "Psyche Miniatures," this small volume deals with the sexual problems of adolescence and marriage in the first section, and with individual psychology in relation to these problems in the second. The arguing employed is close and the frankness is always laudable; there is never any doubt about either the author's attitude or the direction of his advice. The first part of the book is composed of reprints of lectures delivered before the International Society of Individual Psychology in 1929. Their main text is delivered when Dr. Crookshank says that disease is dissociation of the functional unity of the organism, while health is its maintenance; and the deduction follows that the problems of sex cannot be removed from the discussion of the doctrines of life if the discussion is to be in any sense complete. The second lecture is largely concerned with the miserable ways in which sexual questions are dealt with in the teaching of parents, and typical examples are given of lives gone wrong, where the tragedies can be traced to home conditions in early youth. The second part of the book is an address given before a branch of the British Medical Association last year, and has for its text a quotation from Nietzsche condemning the repression of instincts. Commenting on the truism (which our grandparents seem to have not accepted as true) that no boy or girl can grow up to adult age and remain in ignorance of sexual affairs, the author insists that "unless the individual is an idiot, unless there is gross deprivation of brain, the sexual functions are perfectly performed without any specific instruction provided there has been no inhibition of natural instincts and no false teaching by parents or guardians." Aberrant or abnormal tendencies are traced to the same cause in plain language, and the counsel, given or implied, is wise and wholesome.

A Short Practice of Surgery

By HAMILTON BAILEY, F.R.C.S., and J. MCNEILL LOVE, M.S., F.R.C.S., Surgeons, Royal Northern Hospital. Vol. II. London: H. K. Lewis and Co., Ltd. 1932. Pp. 573. 20*s*.

THIS second volume completes a short survey of general surgery. In it are described diseases of the abdomen, thorax, nervous system, skin, head, with accounts of specific diseases and tumours. The authors are adepts at compressing much information into a small space. Indeed, there are few, if any, omissions to be found; all the most recent developments in surgery, such as that of the sympathetic system, find a place. On the whole sound judgment has been exercised in the short summaries of surgical problems. We would single out for special praise the chapters on surgery of the head, spine, and nervous system, sections of the science difficult to expound in simple terms. A few criticisms might be made. For instance, where so many rare conditions and methods are mentioned, the dose of neosalvarsan might have been given and some indication of the course of treatment supplied. In the section on abdominal surgery there is much to commend, but also a few omissions. For example, in the clinical account of perforated gastric and duodenal ulcers there is no mention of the presence of any abdominal tenderness at all, or of the great help to be obtained from rectal examination. There is no description of the clinical features of acute intestinal obstruction; only a few important points are emphasised. The name of that great master surgeon, Billroth, does not appear at all in the section on gastric technique, the Billroth I. operation being described as Schoemaker's (sic) method. We are glad to see the teaching, in the account of the so-called delayed treatment of acute appendicitis, that it is "criminal to attempt it in a patient's home."

Under the symptoms of ruptured spleen the student is informed that shifting dullness in the flanks is present regularly. The usual experience is that this sign appears only when an excessively large amount of blood has been lost to the circulation, and it is dangerous and unnecessary to wait for it as a diagnostic pointer. The subcutaneous operation for congenital umbilical hernia described and depicted is not devoid of risk. The numerous pictures, many in colour, are excellent, well printed, and informative, and the diagrams for the most part very helpful. We can scarcely believe the inflamed appendix ruptures in the forcible and dramatic fashion shown in Fig. 418.

It is an extremely difficult task to write a condensed text-book of surgery, and it requires nice powers of selection and discrimination. The authors have carried out their task with great efficiency, particularly in this second volume. They have put together the facts of surgery in an attractive way, and the book should certainly become popular with students. The general make-up of the book is excellent.

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THE LANCET

LONDON: SATURDAY, NOVEMBER 26, 1932

"B.P."

IF, in its advertisements, price lists, and wrappers, a firm of manufacturing chemists uses the initials "B.P." for preparations which are certainly not included in the British Pharmacopœia, the only remedy, it seems, is an appeal to commercial ethics. The law courts, at any rate, offer no help. Originally trading as Barrett, Peter, Ltd., a manufacturing firm has marketed a series of "B.P. Pharmaceutical Specialities" such as "kill-pain liniment," "children's hair lotion," and "soothing toothache tincture," none of which substances is to be found in the British Pharmacopœia. When Mr. Peter left the firm, the adoption of the name "Barrett's Proprietaries, Ltd." preserved the justification for the trade label "B.P."

The legal position was put to the test in the Chancery Division this month on an application by the General Medical Council and the Attorney-General for an injunction to restrain the defendant firm from this use of the initials. The Council naturally asserted a right in its own property. The Medical Act imposes on the Council the statutory duty to publish, alter, amend, and republish the British Pharmacopœia as a standard list of medicines and compounds. An Act of 1862 gives the Council an exclusive right of publishing, printing, and selling the book. If drugs are falsely represented to be "B.P. drugs," the Council may well claim to be entitled to damages. Evidence was given by Sir Donald MacAlister, Sir Henry Dale, and the president and secretary of the Pharmaceutical Society. It established that the use of "B.P" by the defendant firm was offensive and disparaging to the Council's statutory function and derogatory to the standard and reputation of the British Pharmacopœia. Mr. Justice Bennett, however, felt himself unable to grant a remedy. There was no monopoly, he said, in the name "British Pharmacopœia"; it might be given to a ship or anything else. The initials might designate a brand of petrol which had no relation to the Pharmacopœia. The Council were selling a book and the defendants were selling a bottle of medicine; the latter sale did not injure the Council. It was common ground that no good doctor and no good chemist would be deceived. There remained the layman's aspect of the case. The Attorney-General came into court to prevent the public from being deceived. The public, it was argued, ought to be protected from having something foisted on the lay purchaser which was not of the standard prescribed in the British Pharmacopœia. Here, again, the judge refused to interfere. He said there was no evidence before him as to what the public understood by the letters "B.P." There was no allegation of fraud and, on the existing evidence, he was not disposed to draw any inference of fraud.

The result is unfortunate. It may be true that nobody would identify a ship or a brand of petrol with the functions of the General Medical Council. But the situation is vastly different when the subject matter consists of the products of manufacturing chemists. The man in the street, whose absence from the witness-box apparently caused Mr. Justice Bennett to decide against the Attorney-General, nowadays has some possible acquaintance (however uninstructed) with the initials "B.P." through the national health insurance drug tariff if in no other way. Perhaps the defendant firm, having, through the recent litigation, become aware of the coincidence in initials, will help to remove the risk of confusion.

HOSPITAL DESIGN: AN ARCHITECTURAL REVOLUTION

THE *Architects' Journal* for Nov. 16th devotes its entire column space to a review of hospital design. Unlike many specialist numbers of this type, the subject is dealt with in an analytical spirit, provoking questions of more than usual interest to the medical profession. This number, indeed, marks something of a revival among architects in the specialised study of hospital organisation. In the past architects have waited usually upon their clients, the governors of hospitals and the medical profession, solving their architectural problems for them, but rarely advancing to an intimate knowledge of those problems themselves. Their solutions were in terms of Georgian buildings accommodated to the needs of their clients, and hospital design generally suffered by being stereotyped in a number of accepted plan-types.

The change which is overtaking architecture generally can be summarised as a new interest in structure as opposed to style. On the continent the exigencies of economic depression, coinciding with the discovery of new forms of building structure, have produced an architecture whose main interest lies in the solution of the problems rather than in the production of a known style of building; and the effect of these two pressures has been to subject architecture to a new and a vital force. It is this refreshing attitude towards the subject of hospital design that seems to us to make this special number of the *Architects' Journal* of real importance. Take but one instance of the effects upon planning with an eye upon internal work in a hospital. It may not in the past have been obvious, though it seems so now, that the running of a hospital is a complicated system of circulation: circulations of patients, of doctors, of food, of laundry. All these, engaged upon specific duties and subscribing to one organisation, can only follow one set of tracks in one

building. Merely to provide corridors joining room to room, with some certainty that people will use them somehow, is the superficial solution of the problem, the success of which cannot be foreseen. Yet, in effect, these circulations are the backbone of hospital design; the expression of its organisation. Of a building the size of Sully tuberculosis hospital near Cardiff, it can be said at once that its peculiar plan [1] is directly dictated in the main by circulation, and in measure as architects grow more interested in the organisation of hospitals and as their knowledge of its intricacies and of the ever-changing nature of its equipment increases, they become every day better fitted to be the advisers of the medical profession in this most important task of hospital building. For one realises that once built a hospital is going to last for fifty or a hundred—the durability of modern materials being what it is the framework might even last five hundred—years. To fossilize a passing fashion is a sin against the generations, and a durability of the last sort could only go hand-in-hand with successive transformations in detail, additions, and subtractions.

How easy it must be for a man whose knowledge of hospitals is only a knowledge of building to accept what he finds going on about him as the last word in organisation. It is obvious, looking through this number, how great is the architect's responsibility, for it is his specialised art to work in terms of space and to understand what is to be the outcome of his three-dimensional drawings. It might be said, on the other hand, that it is essential that his clients, too, should understand the nature of his plans; but of the two it is the more healthy sign that the man who makes the plans should make them from a very clear understanding of the organisation upon which they depend. If we are to understand correctly the new attitude towards planning whose adoption all must welcome, we should know that modern systems of building construction allow much greater freedom in the disposition of space. So long, for instance, as balconies had need of outside support; so long as architects had to depend upon continuous walls for the support of their floors and were forced to think of windows in terms of the domestic opening, hospital design had to remain a thing of the Victorian era; but steel framing and reinforced concrete structure, properly understood, have changed all that. Supports can be reduced to the minimum, balconies can be cantilevered into space, and windows, instead of being holes in a wall, may be thought of in terms of large openings capable of admitting the maximum of sun and air, but regulated to admit only what is necessary. Gradually the hospital itself has become the all-interesting problem, and efficiency is no longer in conflict with architecture. Indeed, Herr BRUNO TAUT, the famous German architect, defines architecture as being only a high form of efficiency. It has taken some time for the proper understanding of modern construction to penetrate a profession whose basis has, in the past, been a cautious conservatism. The innate caution of the architect in the use of new inventions is his client's greatest protection. Yet in spite of this, the excitement of a new viewpoint is gradually bringing about a type of architect, who is a specialist, not through having fallen into a rut designing one type of building, but because he is so wrapped up in the solution of his building problems that he is determined to know exactly what actuates the organisation which his buildings will fix into a machine. In hospital work especially, he finds large issues awaiting him and asks himself whether the accepted organisations of voluntary or State-aided institutions are the last word in efficiency. Looking about the world and discussing his job with hospital authorities of many countries, he finds that they very often do it differently abroad; and to a much greater extent than can seem possible to a man merely building as dictated, he sees how organisation controls planning. It therefore becomes daily more obvious that if an architect is to design a hospital that may last its time as an efficient machine, he must be able to advise on the expression of organisation before ever he can draw up a plan.

This number of the *Architects' Journal* is a primer of hospital organisation and equipment. There are pages of planning data which, 20 years ago, would have found no place in architectural journalism. The emphasis is upon function and plan, and the illustrations body forth organisation. The actual external appearance is in suspension, for hospitals of to-day, served with ultimate efficiency, are producing a new type of architecture, the terms of which are far too novel to be the subject of learned discussion.

[1] See THE LANCET, 1931, ii., 1146.

EDUCATION AND EUGENICS

WE publish this week the Lloyd Roberts lecture delivered on Tuesday last before the Royal College of Physicians of London by Prof. L. P. JACKS, whose qualifications for the duty need no mention, and whose performance accorded with those qualifications. In an eloquent plea for a liberal education of the body, he laid particular stress on the importance of making a fit home for the mind, and everyone will agree with him that a meagre and deficient body does not give such a good chance to the intellect, and, which is at least as important, to the spirit, as one which is strong and blithe. For the formal physical exercises of the drill sergeant and the trainer he has little liking; what he advocates is rhythmics and dancing and such exercises as train into a coördinated whole the muscles and the brain, and the artistic sense of beauty and achievement. Coöperation of this sort among young people leads to disinterestedness, and there is no more potent cause of disease than weak character. We find Dr. JACKS, however, unduly pessimistic in his review of existing circumstances, though he is so sound in principle. He is convinced that a terrible process of biological degeneration is going on in our great cities.

"Degeneration" means that things are worse than they have been, but it is not clear whether he reckons the current population to be worse than their grandfathers, or worse than themselves at birth, or worse than a rural population. Without being the least complacent in the face of obvious and admitted defaults from a high standard, we may still hold that the case is put by Dr. JACKS with a lack of balance.

The present population of London is surely better than any previous population in health, intelligence, and moral conduct, as it is certainly superior in all these qualities to many rural populations in the country; and the same can be said of many other great urban communities. It distresses us all to see a number of people in towns who are not pictures of glowing health, nimble intelligence, and good fellow-feeling, and we can share Dr. JACK'S pleasure when he imagines a state of affairs which is very different. The progress which has been made towards this end in the last 30 or 40 years is the conclusive proof that we can reach yet a higher standard, which everyone is anxious to do. Effort, much of the best of it voluntary and enthusiastic rather than scientific, may be discouraged, we feel, by the insistence that we are going rapidly downhill, in the face of accumulating evidence that we are ascending, if only with halting gait. In discussing the means by which mass improvement may be effected through the general manifestation of the good results following on physical and mental training when they proceed in definite unison, we think, incidentally, that the football coach may be named not as an abomination but as an example. The man who trains the finest professional teams produces an amazing perfection of coördinated human activity in which body, mind, and spirit all work together for the common good. And indirectly what he does leads to many small boys kicking a football or its substitute about in the streets or on a waste plot; this may not be eurhythmics but it does the lads a wonderful lot of good.

There reached us, just as the Lloyd Roberts was being delivered, a reprint of the third William Withering lecture for 1932,[1] delivered before the University of Birmingham by Colonel C. J. BOND, in which the lecturer dealt with genetics in relation to public health and preventive medicine. In his discussion of the main problems of human biology the lecturer covered in certain places the same ground as that gone over by Dr. JACKS. In a melancholy exposition of the physical and mental defaults of our population he supports the Lloyd Roberts lecturer, but his outlook is far more cheering, because he sees that much hope lies in the practice of eugenics. To a certain extent the ups and downs of races and of families have throughout history accorded with the natural endowment of individuals, while periodicity in the life of the individual can be compared with corresponding waves in the life of the nation, provided the analogy be not pushed too far. We must not be downhearted if we find ourselves in the trough sometimes. The mental and temperamental endowment of the community, including the capacity to resist disease and injurious environment, are biological factors definitely related to heredity, and Colonel BOND points out that heredity, in its right sense, means an inherited way of life, the child inheriting from its parents all its tendencies to mental and bodily reactions, derived from influences within and without. For the acquisition of the qualities so desired by Dr. JACKS, Colonel BOND recommends the application of genetic knowledge to human life—in other words, the practice of eugenics. The study of world conditions must have convinced the thoughtful that in so far as natural intelligence and innate capacity of response to environment are concerned, the way of progress lies along biological lines. This thesis is developed in the William Withering lecture by adducing the evidence of racial degeneration in this country, and by commenting upon the differential rates of fertility and of intelligence. It is brought out that some of the advances of medicine must necessarily be associated with the maintenance of a damaged stock in whose power of procreation there resides a threat for the future, but the depressing paradox will not be present as the teachings of eugenics are obeyed.

[1] Certain Aspects of Human Biology: Genetics in Relation to Public Health and Preventive Medicine. London: H. K. Lewis and Co. Ltd.

RECORDS OF ANÆSTHETICS

IN a leading article of the October issue of the *British Journal of Anæsthesia* there is a sentence which stimulates comment. The writer remarks that "a definite system of recording anæsthetics, with their immediate and remote results, would, if it could be widely employed, add enormously to the sum of our useful knowledge." It seems strange that there should be occasion or justification for a remark of this kind at the present time. The importance of anæsthetics to the welfare of the surgical patient is fully recognised, even if scant heed is given to the deserts of the anæsthetist; but we have yet to hear of any institution in which the records of anæsthetic administrations and their results are made or kept in such a way that they could be of use to anyone who was making an investigation—if only into the statistical relationships of the different anæsthetic drugs and methods. Generally the record is limited to the barest details inserted in a book in or near the operating theatre. This of course offers no facility at all for describing the subsequent condition of the patient, although this may be in fact the most significant result of the anæsthesia. If the anæsthetic history is sought in the surgical notes of the case it is found to be fragmentary and often inaccurate. The surgical and medical notes of hospital patients have played a great part in the foundation of many a valuable monograph and text-book, and there seems no valid reason why information of the same kind, and equally valuable, should be allowed to run to waste in the case of anæsthetics. Certainly in all teaching hospitals it should be a simple matter to contrive a scheme of note-taking to include both the anæsthetic and a period after its administration, to be carried through by the anæsthetic clerk under the supervision of the anæsthetist concerned.

ANNOTATIONS

DENTISTS' CIRCULARS

Sir Francis Acland's opening speech on Nov. 9th at the twenty-third session of the Dental Board of the United Kingdom contained the consoling information that his parliamentary duties are not to stand in the way of effective occupation of the Board's chair. "I have adopted," he said, "regular hours for public work—week-days 9 A.M. to 12 midnight—and I believe that the Registrar and other officers of the Board have found that they can now discharge their duties with greater promptitude, owing to my receiving and answering their letters on the same day that they are written and posted." He went on to welcome Mr. Bishop Harman as a member of the Board appointed by the General Medical Council, and noted Dr. R. H. Crowley's consent to serve on the Dental Health Education Committee. Apart from such domestic matters, the most interesting part of his address dealt with the evergreen problem of the proper means for a "Dentist, 1921" to make himself known to prospective clients. We have been consulted, said Sir Francis, by dentists about circulars which they propose to issue themselves, or which have been issued by other dentists. This, he said, is the type of thing:—

(i) A teeth institute sends circulars to its patients asking them to look in and inspect dentures made of a wonderful substance which has been newly discovered; (ii) another dentist proposes to send his patients, not with his account but as a separate document, a circular letter saying that in view of the present hard times he proposes to allow a discount on all accounts which are paid promptly; (iii) cards headed "Please take one," announcing a reduction of fees "to meet present financial conditions," are placed in a dentist's waiting-room.

The question raised is whether this sort of thing constitutes an advertisement, and whether the Board would make any objection if circulars or notices of this sort became habitual. I can only advise, Sir Francis said, any dentists who may have done things of this kind, or may contemplate doing so, in the favourite phrase of a well-known private secretary to a member of the Royal Family—"Perhaps better not." It may be done by some with the most innocent intention, but others will then follow and will go a little further, and their intention will not be so innocent. Intention cannot be proved; like paternity it is a matter of opinion. But suspicion may be aroused, and if there seems sufficient ground for it, it may lead a dentist to pay us an involuntary visit. Dentists should be above suspicion.

A NOVEL DIET FOR LIPOID NEPHROSIS

WITHOUT entering into controversy Prof. E. Schiff[1] puts forward some novel suggestions for the treatment of lipoid nephrosis in children, based on his experience in the university children's clinic in Berlin during the past three years. He discusses briefly the symptoms and signs of the disease, emphasising that an "œdema-tendency" rather than obvious œdema is a necessary feature, and proceeds to an analysis of the cause of death in various series. From this it appears that secondary infection is the principal factor, and he argues that treatment should be directed in the first place to improving the child's resistance, rather than to getting rid of the œdema, which after all will only go when the underlying œdema-tendency —the still mysterious feature of lipoid nephrosis—disappears, as it often does spontaneously. The usually accepted type of diet, poor in fat and high in protein, Schiff regards as unsatisfactory. A child deprived of fat, he argues, is a very likely subject for infection, and the higher lipoid content of the blood in lipoid nephrosis cases cannot be altered to any great extent, if at all, by the lipoid content of the diet. Indeed, he is inclined to think that the high lipoid content of the blood may be a response to a "lipoid-want" of the organism as a whole, and he therefore gives the children a diet very rich in lipoid material, especially the yolk of eggs. Liver is also advised as a useful form of protein and fat in the diet, while meat is allowed although it is not regarded as essential. The best diuretic, Schiff believes, is urea; but huge doses are required, such as 30 to 60 g. daily, and as this is unpleasant to take, even with honey, fruit-juice, or jam, he finds it easier to get the same effect by giving large quantities of vegetable food. These dietetic principles are applied as follows. On admission, usually in an œdematous state, the children are given on the first day fresh fruit and vegetables such as tomatoes and raw carrots. An increase in urinary output and decrease of the œdema follows in a few days, and then egg yolks are introduced into the diet. Schiff recommends two to three daily at first, aiming at five daily after a few days, given with sugar and orange-juice. A day or two later meat is introduced, including liver. The raw vegetables and fruit are continued and if œdema and ascites have altogether cleared up the child receives salt-free boiled vegetables and carrots with the meat, a few weeks later being allowed two to three salt-free bread rolls daily with salt-free butter. On this diet the child can be discharged without any further alteration. The fluid intake is restricted to the 60 to 100 c.cm. of fruit-juice taken each day, but with a raw fruit and vegetable diet extra water is considered almost unnecessary. As soon as the œdema has disappeared the children are allowed to get up and spend as much time as possible in the fresh air. Schiff urges the importance of finding and dealing with any possible sources of infection in such cases, but he does not support the teaching of some American workers that infection of the paranasal sinuses plays a large part in the causation of lipoid nephrosis. Nine patients have received his diet with good results. Three of them caught a hæmolytic streptococcal infection in the ward while under treatment, and despite very severe tonsillitis none had any recurrence of œdema. Schiff thinks this is a severe test of the validity of his theories and it should certainly encourage others to try his method.

[1] Jahrb. f. Kinderh., October, 1932, p. 1.

THE NATURE OF HALLUCINATION

A PAINSTAKING research by Dr. Raoul Mourgue into the nature of hallucination deserves attention from psychiatrists.[1] The now famous views of the philosopher Bergson formed the background of Dr. Mourgue's inquiry. The thesis of his work is that hallucinosis springs from a breakdown of intellectual synthesis resulting in the emergence into consciousness of elements that belong to the unconscious life of the individual. This unconscious is not viewed in the light of the psycho-analytic concept,

[1] Neurobiologie de l'hallucination. By Raoul Mourgue. Preface by Prof. Henri Bergson. Bruxelles: Maurice Lamartin. 1932. Pp. 416. Fr.91.

but is seen in biological terms as arising from the instinctual life; in fact, the author does not take a psychological view of hallucinosis but rather a biological one, and therefore his thesis is more allied to neurology. This may seem like a paradox in view of the mentalism which underlies the philosophy of Bergson. Only those who have read Bergson's "Creative Evolution" and "Matter and Memory" will be able to follow the full implications of Dr. Mourgue's argument. For those who have time to study mental states in terms of broad biological principles, disciplined with philosophy, his work will amply reward study.

ACUTE PNEUMOCOCCAL NEPHRITIS

IN seeking for the ætiological agent or agents in Bright's disease much attention has been given to the varieties of streptococcus. Pneumococcal infections, although they have long been known to give rise to nephritis in a small proportion of cases, have received little attention. In a recent paper S. S. Blackman and G. Rake [1] record the results of histological examination of the kidneys in 95 instances of pneumococcal infection in man. In 52 of these the principal changes were those of tubular degeneration. In 34 cases the degeneration was more severe and there were, in addition, capillary thrombi in glomeruli and hæmorrhages into tubules. Lastly, in 9 cases there was an acute diffuse nephritis of the kind seen in the acute hæmorrhagic nephritis (nephritis acris) of Bright's disease save that hyaline thrombi in small vessels were far commoner. Two points are of interest in connexion with this last small group. First, all the cases were in children; in adults there was a greater tendency to get a pure cloudy swelling of the kidneys. Secondly, in 7 out of the 9 examples of diffuse nephritis the duration of the pneumococcal infection had exceeded two weeks. It is possible, therefore, that the development of nephritis in such cases rests upon an allergic basis in a manner comparable to that observed in scarlet fever. The theory that allergy plays an important part in the production of nephritis has received strong support from the experimental work of F. D. W. Lukens and W. T. Longcope [2] who were able to show that acute glomerulitis could be produced much more frequently in rabbits by the injection of streptococcal toxins if the animals had previously been sensitised to such streptococci.

SHOULD INSULIN PATIENTS DRIVE MOTOR-CARS?

THIS question is raised in an editorial article in *Norsk Magasin for Laegevidenskaben* for October, and is prompted by a memorandum by Prof. P. F. Holst and Dr. C. Müller, published in the report of the Norwegian Medico-Legal Commission. As they point out, insulin poisoning due to an overdose of insulin taken by an ordinarily intelligent and reasonably conscientious patient, whose insulin dosage has been adjusted to his requirements, is so rare as to be almost a negligible risk. A greater risk is that the regulation quantity of carbohydrate is not consumed without a corresponding reduction of the insulin. The same loss of equilibrium between the insulin and the body's supply of carbohydrates may occur when the organism's own production of insulin is increased by a spontaneous improvement in the diabetic's health. Increased muscular work may consume more carbohydrates than usual and thus again provoke a relative overdosage of insulin. With all these various risks, even the diabetic who has had his insulin dosage carefully adjusted may suddenly experience more or less serious manifestations of insulin poisoning, although he has conscientiously kept to his diet and daily ration of insulin. It is especially the patient taking large doses of insulin who is liable to such a mishap. Even if he carries a supply of sugar on him wherewith to neutralise the effects of insulin poisoning, they may overtake him so suddenly that he has not time to eat it. The first Scandinavian case of an insulin-poisoned motor driver was published in 1931 in Denmark, the patient being a 25-year-old chauffeur whose motor lorry charged into a stationary vehicle. He had suddenly been called on to drive, and after taking 1 c.cm. of insulin at 8 A.M. he was unable to have his breakfast at the usual time. While driving he began to eat the food he had taken with him and then he partially lost consciousness. Prof. Holst and Dr. Müller come to the conclusion that it is not advisable in general to forbid patients who take insulin regularly to drive a motor-car. But permission to drive should be given only when a medical certificate states that the patient (1) has had his insulin dosage properly adjusted, preferably in a hospital; (2) does not belong to that group of diabetics whose insulin dosage is difficult to adjust because they tend to swing from the one extreme of diabetic coma to the other extreme of insulin poisoning; (3) is familiar with the early symptoms of insulin poisoning and the necessary measures to take against it; (4) is a conscientious and reliable man. It is also urged that insulin patients should not be allowed to drive taxi-cabs or motor omnibuses.

VASODILATORS

THE sulphocyanate salts of potassium and sodium are held by some to be superior to the older remedies for what is called essential hypertension. R. S. Palmer [1] reports that he has now treated 35 patients with these drugs. His observations extended over months or years and precautions were taken to exclude the effect of suggestion, and to control the conditions, so that the effect of other factors such as rest and diet could be excluded. In about a third of the patients a definite lowering of the systolic pressure was obtained, but the reduction in the diastolic pressure was less marked. In this group, when administration of the drug was discontinued, the pressure rose, but a second course of sulphocyanate brought about a smaller reduction. Toxic effects are by no means uncommon; they took the form of skin rashes, gastro-intestinal symptoms, and mental changes such as acute apprehension and excitement, and they were sometimes attended by a considerable fall of pressure. Evidently the toxic and therapeutic effects of sulphocyanates are often very close together, and so far there are few indications that they are in any way superior or even equal to the older remedies.

When rapid vasodilatation is required, as in an attack of angina pectoris, the value of amyl nitrite and nitroglycerin is still undoubted. But their exhibition in conditions other than angina and in normal people may be attended by unpleasant symptoms and even danger. For example, it is important that coronary thrombosis be distinguished

[1] Johns Hopkins Hosp. Bull., 1932, li., 217.
[2] Jour. Exp. Med., 1931, liii., 511.

[1] Amer. Jour. Med. Sci., October, 1932, p. 473.

from angina; in the former the blood pressure is lowered considerably in the attack and further reduction of the systemic pressure may still further reduce the coronary flow and thus increase the area of cardiac infarction. S. H. Prodger and David Ayman [2] gave nitroglycerin in therapeutic doses to 110 patients and observed alarming reactions in 4 of them, all of whom had hypertension and arterio-sclerosis. Considerable reduction of blood pressure and slowing of the pulse were noted in all these cases, and in one an electrocardiogram showed transient complete heart-block. There were always severe constitutional symptoms. Judging from an electrocardiogram taken before nitroglycerin was given to one of the patients, and from the subsequent course, it was evident that she was already suffering from a painless cardiac infarction, and it is not surprising to read that her subsequent course seemed to be unfavourably influenced.

HEALTH INSTRUCTION TO THE LAY PUBLIC

THE teaching of hygiene to the lay public is becoming a question of general interest, but the best way of giving such instruction is not easy to determine. Even experienced lecturers complain that hygiene is the most difficult of all subjects in the curriculum to teach satisfactorily to lay students. Its boundaries are ill-defined, and the background of technical knowledge required for the proper understanding of its precepts is still more indeterminate. A course has to be steered between excessive anatomical, physiological, and biological detail which bores and bewilders the student, and leads nowhere, and superficial and arbitrary dogmatism on the "laws of health." One source of difficulty is that many of the apparently simple problems which confront the common man in the daily conduct of his life have not yet been solved by the wisdom of experts, and they have no easy short cut to health to indicate to the eager laity. Does the doctor know how to preserve his own teeth, how to maintain a good muscle tone in middle age, how to prevent tonsils and adenoids in his own children? Nevertheless, there is much the lay public might learn, and are increasingly anxious to learn, about the rules of healthy living. An American text-book [3] which is restricted to the field of individual hygiene has been compiled by a lecturer with long experience in women's colleges and a wide knowledge of the needs of the modern young woman, and should prove of value to lecturers and teachers, though for various reasons it would be unsuitable as a text-book for any class of students in this country. Dr. Bertha Dyment has produced a curiously uneven book, admirable in its handling of certain sections, such as diet and nutrition, posture, and the care of the teeth, but faulty in arrangement and overburdened with undigested anatomical detail. The sections on menstruation and the care of the personal health are full of ripe wisdom. A valuable chapter on individual mental hygiene, by a contributor from the psychology department of Stanford University, discusses helpfully, and without jargon or faddism, those problems in character, temperament, and nervous control which are responsible for such a large proportion of breakdowns among young professional women. This is a field in which American women's colleges have probably a good deal to teach those in this country. It is perhaps unfortunate that Dr. Dyment has followed a current fashion in works on general hygiene addressed to women, and has included some sentimental discussions on marital relationships and social aspects of sex. She definitely advocates early marriage, with a paid job for the wife and birth control until children are found convenient, as an ideal régime for educated women. In this country we have far to go before the teaching of the simple biological facts of sex and motherhood to girls is generally established. The introduction of adventitious matter on which medical and lay opinion is sharply divided is likely to retard seriously the cause of sex education.

[2] Ibid., p. 480.
[3] Health and its Maintenance. By Bertha Stuart Dyment, M.D. California: Stanford University Press. Pp. 472. 21s. 6d.

SIR THOMAS BARLOW, GOLD-MEDALLIST

THE annual dinner of the Royal Society of Medicine, reported on p. 1188, was made memorable by the presentation of the gold medal of the society to Sir Thomas Barlow. The medal is awarded triennially to a scientist who has made valuable contributions to the science and art of medicine, the previous awards having been to Sir Almroth Wright, Prof. Gowland Hopkins, Prof. J. S. Haldane, and Sir Henry Head, all Fellows of the Royal Society. In presenting the medal Mr. Warren Low said that Sir Thomas Barlow had been physician to three monarchs and held honorary degrees from eight universities, in addition to being a Fellow of three colleges of physicians other than his own, of which he had been president. His writings had given him a world-wide reputation. He was a great clinician and a learned and enthusiastic morbid anatomist. He was still active and alert, devoting his considerable energies to the charitable work so dear to him—that of the Royal Medical Benevolent Fund. In replying, Sir Thomas, who was received with prolonged applause and musical honours, expressed his gratitude for the gift and his particular pleasure at receiving it from the hands of one with whom he had worked at Great Ormond-street many years before, during one of the happiest periods of his life. He cherished a belief that the society would continue to consolidate the art of medicine and maintain the traditions of a noble profession.

ACUTE RHEUMATISM AND POVERTY

Dr. J. A. Glover in his Milroy lectures [1] for 1930 came to the conclusion that no disease has a more definite "social incidence" than acute rheumatism which, he said, falls perhaps 30 times as frequently upon the poorer children of the industrial town as upon the children of the well-to-do; but the detailed investigation made by the Child Life Committee of the Medical Research Council [2] failed to isolate any factor in the social circumstances of rheumatic children which might be described as causative. In other countries the importance of poverty as a predisposing factor in this disease has, perhaps, been less emphasised, though Nobel in Germany has drawn attention to it. In the United States, according to a paper just published by Prof. John R. Paul and Dr. P. A. Leddy, of the Yale Medical School,[3] very little is known of the incidence or mortality of acute rheumatism and its relationship to poverty is perhaps less distinguishable than in England, because the population is not so clearly stratified in different social and economic layers. Paul and Leddy have tried to secure evidence of its incidence by measuring the amount of rheumatic heart disease

[1] THE LANCET, 1930, i., 499, 607, and 733.
[2] Med. Research Counc., Spec. Rep. Ser. No. 114.
[3] Amer. Jour. Med. Sci., November, 1932, p. 587.

in a group of Yale University graduate and undergraduate students, most of whom come from the north-eastern part of the United States. In this selected population the incidence of rheumatic heart disease proved to be 8·2 per 1000 for the undergraduate group and 11·4 per 1000 for the graduate group. Both these rates lie below the figure which the authors estimate to be the average rate for the general population in the same areas—namely, 15 per 1000—but the differences are hardly large enough to suggest much social distinction. On the other hand differentiation of the economic status of the students, based upon the type of school from which they were drawn, does afford evidence of a lower incidence amongst persons of ample means even in this fairly homogeneous population. Among the men who had attended expensive boarding-schools the incidence of rheumatic heart disease was only 5·8 per 1000, whereas it was 12·5 per 1000 among those from high schools. This study is the first of a series which Paul and Læddy hope to make in differently selected populations. The importance of the problem needs no emphasis, for there can be little doubt that detection of the connecting link between poverty and acute rheumatism would materially contribute to the prevention of the disease.

SPONTANEOUS RUPTURE OF THE AORTA

SOME observers believe that it is possible for the normal aortic wall to rupture when subjected to an extreme degree of strain; this is denied by others who hold that the pressure of the blood within the vessel cannot possibly reach a level sufficient to produce rupture unless the wall is weakened by some disease process. There are similar differences of opinion about rupture of the aortic valve. Some 120 cases of rupture of this valve after strain or trauma have been reported, but it is open to question if in any one of them the valve and neighbouring aortic wall have been proved normal. Experimentally, enormous pressures are required to rupture the tissues of the aorta and its valve when these organs are normal, and it seems impossible that these pressures can ever be reached in the living. In a paper dealing with "spontaneous" rupture of the aorta, Oskar Klotz and Winifred Simpson [1] describe five cases in which the rupture occurred in tissues showing little or no pathological lesion on superficial examination, but which showed definite defect on microscopy. Three of the patients were under 40, and the oldest was 54. In all there was a clean-cut tear of the aortic intima, through which the blood had forced its way and burrowed into the media, where a dissecting aneurysm was produced between the outer and middle thirds of this coat. In all but one case the rupture was in the ascending aorta within a few centimetres of the aortic valve; in the exception the rent was in the descending thoracic portion. External rupture into the pericardium or pleural cavity was usual. The rupture is attended by symptoms of extreme severity, and the picture is very like that seen in a severe attack of coronary thrombosis. Death within a few hours or days is the rule, but Klotz and Simpson believe that it is possible for a dissecting aneurysm to heal. The intima of the aorta in these cases is remarkably free of disease, and it is not until the vessel wall is examined microscopically that any lesion is discovered. The characteristic lesion was revealed here, and consisted in patchy or diffuse necroses, situated usually in the zone between the middle and outer thirds of the media. There was no accompanying inflammatory reaction, nor any fibrosing process in the neighbourhood. Where the necrosis was complete a cleft was left filled with a colloid-like material. This mucoid degeneration is not dependent on thickening in the vasa vasorum, and is certainly not syphilitic. Many years ago H. M. Turnbull [2] found it to be more commonly associated with cardiovascular hypertrophy and high blood pressure. Klotz and Simpson, in discussing the pathogenesis of the condition, do not refer to high blood pressure and cardiovascular hypertrophy, although in each of their five cases cardiac hypertrophy was present, and from the data which they give would appear to be a reaction to hypertension. Local spasm of the vasa vasorum would seem to be a plausible cause for the medial lesion, but it is difficult to assess the importance of toxins and dietary deficiencies, which are factors suggested by the authors.

[1] Amer. Jour. Med. Sci., October, 1932, p. 455.

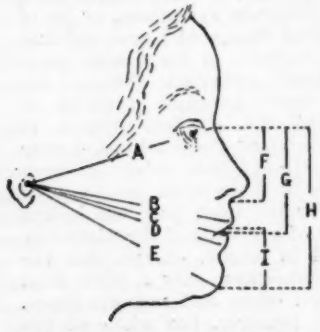
AMŒBIC DYSENTERY IN INFANCY

AMŒBIC dysentery is comparatively rare in Western Europe, whereas infantile diarrhœa due to other causes is common; hence sporadic cases of the former in infants are apt to go undiagnosed. Not only are the symptoms very variable, but the appearance of the stools is often not characteristic. An epidemic in the Brefotrofio in Messina between the months of March, 1931, and January, 1932, throws light on both the clinical character and pathology of the disease in infancy, since many cases came under observation which in the absence of an epidemic might not have been recognised. From the clinical aspect, Prof Guido Izar [3] finds that in infants during the first year of life the condition is more likely to be fulminating; the cases may present peritoneal, gastric, or choleraic symptoms, or be of septic or toxic type. Over the age of 1 year, children may show any of the features of the disease as it occurs in adult life, though metastatic abscesses are rare; the condition may simulate typhoid or appendicitis, or present the classical picture of ileocolitis. Of 30 post-mortem examinations, 4 were on infants of under 1 month and 23 on infants between 1 and 10 months, while in 3 the child was between 1 and 2 years old. For the most part the lesions in those over 5 months of age were of the ulcerative or necrotic type found in adults, except that the ulcers were much smaller—often only a pin's head in size, with undermined edges and necrotic bases. In the younger babies, however, the whole of the colon showed a diffusely catarrhal condition with hyperæmia or hæmorrhagic lesions, but without actual ulceration. Therapy in the infant presents a more difficult problem than in the adult, since arsenic is poorly tolerated and must be administered with caution; Izar has found that even small doses of emetine may give rise to toxic symptoms and result in rapid fall in blood pressure and cardiac failure. Paralysis is rare but undoubtedly occurs. He recommends a total dosage of 5 mg. emetine per kg. of body-weight, given in a ten-day period, or a daily dosage of 3 mg. of stovarsol per kg., given each day for 14 days, for infants up to 1 year old. In place of emetine, rectal injections of 5 cg. of powdered ipecacuanha and 1 cg. of thymol in 50–100 c.cm. water can be alternated with injections of 2–5 cg. iodoform in 50 to 100 c.cm. olive oil.

[2] Quart. Jour. Med., April, 1915, p. 201.
[3] Riforma Med., 1932, xlviii., 1435.

THE GROWTH OF THE FACE

THE correction of irregularities of the teeth is not merely a matter of devising mechanical appliances capable of moving misplaced teeth into correct alignment. It involves the careful consideration of such factors as the development and growth of the jaws, the rôle of inheritance and the determination of the average normal arrangement of the teeth. Thus embryology, anatomy, anthropology, and æsthetics must all contribute to orthodontics, which in turn has done something to repay the debt by stimulating investigations which otherwise might not have been undertaken. The remarkable work of Prof. J. C. Brash on the growth of the jaws was undertaken at the invitation of the Dental Board, which received a rich reward for its foresight. The monograph on facial growth in children[1] just published by Miss Corisande Smyth, L.D.S., and Dr. Matthew Young, is another example of work primarily undertaken in order to elucidate orthodontic problems which has a still wider value as a contribution to anthropology. Miss Smyth undertook the arduous work of collecting, while Dr. Young has been responsible for the statistical evaluation of the records obtained. Many of the conclusions reached can be followed only by the trained statistician, but the main conclusions can be appreciated by all. The primary object of the investigation was to find and establish standards of comparison at the several ages between 8 and 14 for the more important facial dimensions, and also to show by means of averages the direction and normal rates of growth of the jaws as a basis for the study of the abnormal. Only children with morphologically normal occlusion were chosen for record. This meant that many thousands of children had to be examined to obtain the number (1400) on which the data are based. Twenty measurements of each child were made by Miss Smyth with specially devised instruments so as to cover all the possible sites of facial growth. As will be seen from the figure reproduced from the book, those measurements are taken which show the growth of that part of the cranium concerned primarily with mastication.



The analysis indicates that the facial characters show an approximately linear relationship both to age and height, and the increase in mean value is fairly regular. There was little difference revealed between boys and girls. Among the more significant conclusions are that after the eruption of the deciduous teeth, the alveolar arches do not increase in length; this confirms the early work of John Hunter and the later work of John Tomes and L. Bolk. But there is a definite increase in the width of the arches after the age of 4, and the dental arch becomes a part of a wider curve. An interesting association demonstrated by the analysis of the data is that there is an appreciable and significant connexion between the zygomatic breadth and the width of the dental arches. In view of the fact that this has been denied by some continental workers, Dr. Young's findings are important. Another point which he makes is that in a large group of children between 8 and 14 there is a slight but definite tendency for a relatively narrow face to be associated with a relatively high palate, but there is no tendency in these cases for the dental arch to be narrow. It will be remembered that Sir Arthur Keith, from his study of prehistoric English skulls, came to the conclusion that in a considerable proportion of the modern population in this country there was a tendency for the face and palate to become narrower, and that evolutionary changes affecting this part of the cranium had occurred within a span of a few hundred years. Dr. Young, from an entirely different approach, has come to much the same conclusion.

At first sight it might not seem easy to apply the facts obtained by this investigation to orthodontic diagnosis and treatment. But there is no doubt that in time this work, together with that in other countries, will help to provide valuable data for the estimation of the average normal of facial growth, and thus enable the orthodontist to know more precisely the types of irregularities amenable to treatment and the most favourable time for intervention. Thus, for example, expansion of the dental arches is often desirable; but the best time to do this is when the arches are normally growing, so that the pressure of the apparatus employed gives a stimulus to an inherent tendency to grow wider. If expansion is attempted after this stimulus to growth has normally ceased to function, the attempt to expand the jaws may merely result in a mechanical tilting of the teeth rather than act as a stimulus to bone growth. The data provided in this monograph on the rates of growth of the jaws at different ages, show that expansion, to be effective, should be carried out between the ages of 6 and 12, with a preference for the earlier part of this age span. Doubtless in time it will be possible to apply many of the conclusions in this way to the practical treatment of malocclusion.

[1] Facial Growth in Children, with Special Reference to Dentition. Medical Research Council, Special Report Series No. 171. 1932. Pp. 83. 1s. 6d.

THE Bradshaw lecture of the Royal College of Surgeons of England will be delivered at the College at 5 P.M. on Dec. 15th by Prof. G. E. Gask, director of the surgical unit at St. Bartholomew's Hospital.

WE regret to announce that Lieut.-Colonel Spencer Mort, who had been medical superintendent of the North Middlesex Hospital, Edmonton, for over twenty years, died suddenly on Nov. 21st.

Mr. Ernest Clarke, consulting surgeon to the Central London Ophthalmic Hospital and consulting ophthalmic surgeon to the Miller General Hospital for South-East London and the Freemasons' Hospital, who had been ill for some time, died on Nov. 22nd at the age of 75.

A MANCHESTER MIDDLE-CLASS CLINIC.—It is proposed to erect on a site in the centre of Manchester a hospital clinic for persons of moderate means. There will be accommodation for 200 patients, and the cost is estimated at £200,000. It is stated that the building will be begun shortly, and that it is hoped to have it completed in 18 months. The scheme, which is being supported by a syndicate of professional and business men, aims at providing a private room at a cost not exceeding six guineas a week. The patient would have at his disposal a resident surgeon and a choice of 20 or 30 consultants.

SPECIAL ARTICLES

TYPE-SPECIFIC ORGANISMS IN ACUTE PNEUMONIA

AND IN CONVALESCENTS AND CONTACTS

BY IAN M. CHRISTIE, M.B. GLASG., D.P.H.

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AN investigation is being conducted in Knightswood Fever Hospital, Glasgow, with special reference to (1) the types of infecting pneumococcus, (2) the clinical course which the disease tends to pursue as determined by the type of causal organism, and (3) the carrier problem in so far as it affects patients and contacts. The cases observed and reported on below are those admitted to the hospital between November, 1931, and July, 1932.

Incidence of Types

During this period 118 cases were typed, with the general result that Type I. pneumonias were found to account for 42·4 per cent. of the series, Type II. for 37·3 per cent., making a total percentage of 79·7 for Types I. and II. combined, while practically all of the remainder fell into Group IV., there being only two cases belonging to Type III. Table I. shows the distribution of the cases in relation to the frequency and fatality percentages for each type.

TABLE I

—	Cases.	Deaths.	Frequency percentage.	Fatality percentage.
Type I.	50	12	42·4	24
Type II.	44	11	37·3	25
Type III.	2	2	1·7	100
Group IV.	22	1	18·6	4·5
Total	118	26	—	22

The pneumonia of the winter of 1931–32 was thus composed of Type I. and Type II. infections to the extent of three-fourths of the cases, the former slightly predominating. The great majority of the patients were admitted to hospital between the months of February and May (17 in February, 42 in March, 20 in April, and 17 in May), during a period when acute primary pneumonia generally in the city had reached epidemic proportions of unusual magnitude and severity. The curves of incidence and of death rose suddenly and extended over the ten weeks of February and March and the first two weeks of April, showing a peak during the week ending Feb. 27th, when 372 cases of the primary pneumonias were reported in the city, and 108 deaths occurred. The cases of lobar pneumonia admitted to hospital mostly occurred during this period of high prevalence. It is interesting to compare the present results of typing with those (unpublished) obtained by Dr. T. A. Pratt in this hospital during the spring of 1930 (February to June). Having typed 100 cases, he found 38 of Type I., 35 of Type II., 4 of Type III., and 23 of Group IV.—i.e., 73 per cent. belonged to Types I. and II. together, as compared with 79 per cent. in the present series. In that year, however, the general curve of pneumonia from January onwards was a sustained one, and the disease was of a much milder type, Dr. Pratt's death-rate being 9 per cent. as against 23 per cent. for the cases now under review. Thus, although the numbers examined are small, they suggest that the relative proportions of Types I. and II. pneumonias alter little, whether the disease prevailing at the time is severe or not.

When compared with the results of other observers [1] in this country the data shown in Table I. are found to differ in the high incidence of Type II. and in the low incidence of Group IV. infections, respectively.

F. Griffith (1920–22), in a study of 150 cases, gives the following percentages: 30·6, 32·7, 6·7, and 30·0. Glynn, Digby, and Jones (1919–21), with 96 cases, show the proportions to be 45·8, 24·0, 2·1, and 28·1. Fergusson and Lovell (1925–27), with 116 cases, record their results as 43·1, 4·3, 0·0, and 52·6; while the Glasgow figures of John Cowan and others (1920–32),[3] in 737 cases, are 37·6, 34·6, 4·2, and 23·6.

It seems, then, that the incidence of pneumococcal types varies from place to place; on the other hand, the evidence derived from the figures of Drs. Cowan and Pratt, together with that of those under review, suggests that the frequency percentages of pneumococcal types in the same locality are relatively constant and alter from year to year only within narrow limits. American statistics exhibit a higher percentage of Type III. pneumonias and a lower incidence of Type II. infections. Cecil, Baldwin, and Larsen (quoted by Topley and Wilson [1]) show the percentages in 1913 cases to be 33·6, 19·1, 13·3, and 33·3, and it is of interest to note in connexion with this higher frequency of Type III. pneumonias that Avery and others in New York found the percentage of Type III. pneumococci in normal mouths to be as high as 28 per cent. As regards the fatality-rate in England, typical figures are Type I., 27·1 per cent., Type II., 36·3 per cent., and Group IV., 11·5 per cent. (Glynn, Digby, and Jones, 1923), and 26 per cent., 20 per cent., and 24·6 per cent. respectively (Fergusson and Lovell, 1928). The low mortality from Group IV. infections in the present series is consequently of considerable interest, and may possibly be accounted for by the epidemic being due in the main to a relatively exalted virulence of Types I. and II.

The question has been raised whether a severe and concentrated epidemic of pneumonia is due to a higher prevalence of a particular type of organism. The evidence for this is small. Cowan and others [2] state that the results of typing show that during last winter Type II. was less prevalent than in the previous two years, the proportion for September, 1931, to April, 1932, being 42, 29, 4, and 24 per cent. for the various types. This is not quite borne out by the results of the present series, and the question could probably be answered only by a large investigation. Apparently, however, both types are present and cause a high mortality during a period of epidemic prevalence.

TABLE II.—*Age-distribution of Cases Typed*

Age-groups.	Total cases typed.	Type I.	Type II.	Type III.	Group IV.
0–15 years ..	6	2	2	—	2
15–25 ,, ..	40	16	18	—	6
25–35 ,, ..	28	15	6	1	6
35–45 ,, ..	23	10	10	—	3
45–55 ,, ..	10	3	4	1	2
55–65 ,, ..	7	2	3	—	2
65 and upwards	4	2	1	—	1
Total ..	118	50	44	2	22

The age-distribution in the cases admitted and typed is given in Table II.

This shows that most of the patients suffering from lobar pneumonia belonged to the middle period of

life, from 15 to 45 years of age, the highest number occurring among young adults between 15 and 25 years. In these periods Types I. and II. predominated, the former being slightly in excess. There is no evidence to suggest that any one type of organism tends to select a special age-group.

Clinical Course and Type of Infection

The following observations were made during a period of epidemic prevalence of the disease.

Type I. pneumonia conforms to the classical picture of the disease.

The patient is usually a young adult who has been taken ill suddenly with pain in the side, accompanied by shivering. He is admitted to hospital on his second or third day of illness. He is found to be distressed, anxious, and restless. His throat is dry and inflamed, and his tongue coated with a thick white fur. Physical examination of the chest reveals a definite local lesion with evidence of consolidation—i.e., dullness, loud tubular breathing, and increased vocal resonance. The spit, at first scanty and slightly tinged with blood, soon becomes copious and rusty. On the sixth to the seventh day resolution begins, and the illness terminates by crisis.

It is remarkable how constantly Type I. cases furnish the classical picture, varying only in the degree of severity. In the 15–25 age-group, however, mild cases occur in which the patient suffers but little discomfort. In these instances the local lesion remains decided, its nature and extent is readily assessed, and the mode of termination is, as a rule, by crisis. It may be said that a typical case of Type I. pneumonia can be diagnosed by clinical examination at the bedside.

As regards Type II. cases, these are best seen in men of middle age. In contrast to the restlessness so often evident in Type I. pneumonia, the Type II. patient lies quietly in bed. His respirations are rapid and shallow, and he endeavours to conserve every ounce of strength. He is either overwhelmed by toxæmia or gradually recovers, when his illness terminates as a rule by lysis. The physical signs are usually frank, and as easily detected as in the Type I. disease. Such a train of symptoms is, of course, not confined solely to Type II. pneumonia, but may present itself in Type I. cases towards the end of an illness when the patient is exhausted, or in any pneumonia where infection is severe and the constitutional reaction poor. Nevertheless, in the healthy adult, Type I. pneumonia tends to elicit a sharp and vigorous response associated with restlessness and distress, while in Type II. infections, toxæmia, lethargy, and exhaustion are more prominent symptoms.

Many of the cases of Types I. and II. pneumonias, in the 15–25 age-group in particular, were so mild that clinical differentiation could not be made with confidence. A distinguishing feature, however, in these cases was the mode of termination.

In a series of 36 cases of Type I., 27 terminated by crisis, while in 31 cases of Type II. only 15 ended by crisis. Two cases yielding Type III. occurred, one in a subject of 50 years in whom degenerative changes were well marked, and the other in an athletic man of 28 years who succumbed to an attack of great severity, with Type III. organisms repeatedly present in the sputum and also in the blood stream.

A review by Blake,[3] in America, of 122 consecutive cases, indicates that Type III. pneumonia is a highly fatal disease with a mortality-rate of 44·3 per cent., due not to extreme virulence of an organism in a healthy host, but rather to a relatively mild and uncommon organism invading a debilitated or senescent host. This is contrary to previous opinion, which upheld the Type III. organism as one of high virulence, fortunately rarely attacking the human subject. Consequently, in the evidence provided by this latter case alone, there is little doubt that in young healthy adults Type III. pneumonia may be an infection of the utmost severity.

The two outstanding features of the Group IV. infections are their aberrant character and their low mortality-rate. Deviation from the classical description is common in these pneumonias.

There may be a lobar distribution accompanied by dullness, tubular breathing, and rusty sputum, but more often physical signs are indefinite and a sharp illness terminates by a sudden crisis. For example, a young male adult, aged 25 years, was admitted on his third day of illness with high temperature, coated tongue, and rusty sputum. Impairment of resonance and fine crepitations were present at the left base. The patient remained almost lethargic until his crisis, which occurred on the twelfth day. Tubularity was not detected at any stage of the disease. As a matter of fact in only 9 of the 22 cases was tubular breathing evident, and in these it was frequently evanescent. Pleuritic pain, on the other hand, was a common symptom. The single death, which occurred in a man of 66 years, well illustrates the mild nature of the infections produced by Group IV. organisms.

BACTERÆMIA IN LOBAR PNEUMONIA

Bacteræmia was studied in 28 patients with severe infections. In the method employed for each patient, blood was drawn daily in amounts of 5 c.cm. and transferred to a flask containing 75 c.cm. Hartley's broth. The culture was then incubated for 18 hours. Pneumococci were isolated on 16 occasions (Table III.).

TABLE III

—	Total cases.	Positive results.	Negative results.
Type I.	12	7	5
Type II.	11	7	4
Type III.	1	1	—
Group IV.	4	1	3

Patients yielding negative blood cultures made uneventful recoveries. Of seven positive Type I. cases, one proved fatal, three developed empyema, and in the remainder convalescence was prolonged. In the Type II. series four deaths were recorded, and of these two were due to pericarditis which had developed as a complication of the primary illness. The results suggested that in pneumonia the presence of bacteræmia is of considerable significance, especially in Type II. infections; and that in order to demonstrate the existence of the pneumococcus in the circulation, daily blood culture is necessary so that this important prognostic feature may not be overlooked. It is of interest to note that pericarditis occurred as a complication of Type II. infections in which blood culture was repeatedly positive.

DIFFICULTIES IN DIAGNOSIS

There are certain difficulties and fallacies which may attend the differentiation of types. Determination of type is accurate only when the material comes from a reliable source. Pneumococci obtained from the blood or by lung puncture are in pure culture, but when the material used is rusty sputum it must be borne in mind that not only are other organisms present but that different strains of pneumococci may coexist, a fact well illustrated by Griffith [4] in his experiments on transmutation of types. Fresh rusty sputum, which contains the causal organism in abundance, is, however, reliable material for type determination.

Difficulties in diagnosis arise, therefore, when the spit is absent or muco-purulent, as the following examples show.

CASE 1.—Man, aged 41, notified as empyema, and had been treated at home for pneumonia five weeks previously. Pneumococcal pus was obtained on exploration of the

chest at the right base and Type I. pneumococci found. The sputum, muco-purulent in character, yielded Type II. organisms, and subsequent retyping confirmed these findings. Thus there were recovered Type II. organisms from the sputum and Type I. organisms from the lung. It is probable that the presence of the former indicated the carrier condition.

CASE 2.—Man, aged 46, was admitted, according to his admission report, on his seventh day of illness, apparently recovering from acute pneumonia. His sputum, which was muco-purulent, yielded Type II. organisms. His condition remained unchanged, and he was found to be suffering from acute phthisis. Thus fallacies may arise when non-rusty sputa are used for determination of type. A muco-purulent expectoration may contain specific type pneumococci as accidental inhabitants of the normal bacterial flora in the throat, trachea, and upper bronchi.

CASE 3.—Mrs. A., aged 40, had a moderately severe attack of lobar pneumonia with prostration, and sputum was not obtainable. A throat swab yielded Type III. organisms, but this could not be regarded as conclusive evidence of the existence of a corresponding infection, for this organism is commonly present in 5 to 8 per cent. of healthy persons.

In such cases and in children, where sputum is rarely available, lung puncture is the only alternative, in the absence of bacteræmia.

The Carrier Problem in Pneumonia

Incidence of type-specific pneumococci among convalescent patients.—Of 26 Type I. patients, whose sputa were examined on the day of dismissal, 5 were found to have retained Type I. pneumococci; while of 14 Type II. patients the specific organisms were present in 5. Consequently, 24 per cent. of all patients examined were dismissed carrying in their throats the type germs which had been responsible for their illnesses.

In order to ascertain more fully to what extent these type-specific organisms persisted, a number of patients had their sputa examined on several occasions during convalescence—viz., shortly after crisis, on being allowed up, and on dismissal. The results may be summarised as follows: (1) In only 6 of the 24 cases examined were type-specific pneumococci absent throughout convalescence. (2) In 14 examples of Type I. infection the same organism persisted in 6, while in 10 instances of Type II. pneumonia, 9 yielded the organism during convalescence. (3) On two occasions only were the specific types found at each examination. (4) The data submitted bring out the interesting fact that in patients convalescing from Type I. infections, the causal organism is commonly replaced by Group IV. pneumococci, but may on occasion be succeeded by members of the Type III. or Type II. classification.

Type-specific pneumococci in the throats of healthy persons.—The types of organisms present in the pneumonia patients having been ascertained, their occurrence in the throats of persons in attendance on the sick was next studied. This investigation was begun during March, when the incidence of lobar pneumonia was greatest, when the wards were busy, and admissions most numerous.

From March 3rd to April 11th the sputa of the nurses on duty were examined at intervals; 56 examinations being conducted in regard to nurses in two pneumonia wards and 24 in other wards which served as controls. Among a nursing staff of 12 in one of the pneumonia wards, organisms of Type I. were found on four occasions and of Type II. on seven occasions: each nurse was examined four times during the above-stated period. The staff of a second pneumonia ward were examined once, and Type I. recovered in a single instance. Of 24 examinations made during the same period in respect of nurses in control wards, organisms of Types I. or II. were not demonstrated.

The general findings show that of 80 examinations undertaken, organisms of Types I. and II., which most prevailed in the wards, were present in the nursing staff on 13 occasions, all being found among contacts in pneumonia wards and none in control wards. Taking these positive contacts, six in number, individually, one was found to be a persistent carrier of a Type II. pneumococcus which was present on six occasions, while a second yielded a similar organism at two examinations. Three nurses showed Type I. organisms on one occasion, and another similar organisms in two instances.

These results illustrate the incidence of type-specific organisms in a single group of nurses attached to pneumonia wards. As the controls were few in number, a monthly examination was subsequently made of the sputa of the hospital staff as a whole, numbering 76. During May and June, 172 examinations were made as follows:—

	Number examined.	Type I.	Type II.	Type III.
May	72	2	1	6
June	100	—	1	5

A feature of these results is that organisms of Types I. and II. were isolated only from nurse contacts in the pneumonia wards. One of the Type II. strains was obtained from the persistent nurse carrier previously referred to, while the other three were obtained from nurses who had been but a few weeks in these wards. In respect of nurses not in contact with penumonia patients, 148 examinations were made, but on no occasion were Type I. or Type II. pneumococci isolated. Type III. pneumococci occurred in 6·4 per cent., but were uniformly distributed amongst the staff as contrasted with the other two types which were isolated only from nurses on duty in pneumonia wards. The incidence of Group IV. organisms varied between 40 and 60 per cent. of the normal persons examined.

Information regarding the habitat of these serological types was obtained by taking swabs from the different portions of the respiratory tract of each carrier as soon as the presence of type-specific organisms was proved. Nasal and post-nasal swabs were taken, as well as mouth washings, and portions of sputa coughed up from the back of the throat. In three out of seven carriers examined the organisms had disappeared and were not found at any future examination. Among the remaining positives the post-nasal swabs and sputa yielded the organism on all occasions. The nasal swabs taken from the vestibule were positive on two occasions. In no case were type-specific pneumococci isolated from mouth washings.

The virulence of type-specific organisms recovered from the healthy contacts, as above, is also under investigation. So far five strains of Types I. and II. organisms have been tested and all found to possess a high degree of virulence.

Conclusions

(1) Though the type incidence varies widely from place to place, the relative proportions of the types in Glasgow since 1930 have been but little altered by the severity of the prevailing disease, whether during a period of high incidence or of epidemic prevalence, or not.

(2) That routine typing seems to be of great value. It is apparent that the disease tends to pursue a distinctive clinical course as determined by the type of infecting organism, and that the recovery of pneumococci from the blood stream demands a guarded prognosis.

(3) It was found that (*a*) 24 per cent. of all patients convalescing from Types I. and II. pneumonias were

dismissed with the causal organisms in their respiratory passages; that in a minority of cases, type-specific pneumococci completely disappear immediately after crisis; and that Type II. organisms are more prone to persist than Type I. (*b*) Healthy persons in contact with lobar pneumonia patients are liable to carry pneumococci for a varying period, especially in the nasopharynx, and the persistence of type-specific pneumococci in carriers is not accompanied by any diminution in virulence. (*c*) Group IV. pneumococci are commensals in the throats of 40 to 60 per cent of normal persons, while Type III. organisms occur in proportions varying from 5 to 8 per cent.

I desire to acknowledge the valuable advice and assistance of Dr. William Dow, the medical superintendent of Knightswood Fever Hospital, and of Dr. A. S. M. Macgregor, medical officer of health for Glasgow.

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MEDICINE AND THE LAW

Evidence against Criminal Abortionist

WHEN, some months ago, Mr Justice McCardie attracted not a little publicity by his tolerant attitude towards the statutory offence of criminal abortion, it was suggested in these columns that his characteristically independent views would perhaps not be shared by his colleagues on the bench. Justice, especially criminal justice, ought to be uniformly administered. It is inconvenient if one judge imposes a severe sentence under a particular branch of the criminal law, while another judge encourages the suggestion that that branch of law is obsolete. Upon a topic like criminal abortion the divergence of judicial opinion perplexes the public and, in particular, makes difficulties alike for the public prosecutor and the medical profession. The doubts might have been removed by some authoritative statement by the Attorney-General in Parliament or by the Court of Criminal Appeal. But the doubts remain. At the Old Bailey on Nov. 17th, counsel cited Mr. Justice McCardie's dicta to Mr. Justice Swift, while the latter listened unmoved. The point was one of evidence. A woman, aged 50, described as a canvasser, was indicted for performing an illegal operation upon a hospital nurse. The prosecution called the hospital nurse into the witness-box to assist in proving the charge. Counsel for the defence referred to a similar case where the prosecution had tendered the evidence of the woman on whom the operation had been performed and also the evidence of a male friend of hers. On that occasion Mr. Justice McCardie warned the witnesses that they were participators in the alleged offence and that their evidence might incriminate them; when, after this warning, he asked them if they still desired to give evidence they naturally accepted with alacrity the opportunity to leave the witness-box, and the accused was consequently discharged for lack of evidence of the offence. Mr. Justice Swift, however, took a different view. He had no reason, he said, to suppose that the hospital nurse would be prosecuted for her share in the incidents on which the charge was based. He was himself under no obligation to warn her not to answer questions for fear of incriminating herself. There were many cases where, if a witness were allowed the option of giving or withholding evidence, the law could not be enforced. The alleged offence was not an offence against the hospital nurse, but against the community as a whole; it must be properly investigated, and anyone who knew anything about it must be compelled to speak. He directed the witness to answer the questions. She did so, and though the accused gave evidence denying the charge, the jury found a verdict of guilty, and the judge imposed a sentence of three years' penal servitude.

There are two questions here—first, was it likely that the hospital nurse after giving evidence for the prosecution would herself be prosecuted? The answer is in the negative. If so, Mr. Justice McCardie purported to protect the witnesses against a danger which was not likely to befall them. The second question is—What is the value of the evidence of an accomplice? Here all the judges would agree upon the answer. A woman who invites an abortionist to perform an illegal operation upon her is an accomplice. This fact detracts from the value of her evidence. The uncorroborated evidence of an accomplice in such a case is admissible, but the court will always warn the jury not to convict upon such evidence alone. A woman who in pursuit of her duty as a police spy goes to an abortionist is not an accomplice; her evidence therefore requires no corroboration.

Physio-medical Practitioners

At an East Lancashire inquest held on Nov. 13th evidence was given that a woman who died of cancer had been under the care and treatment of two persons who apparently described themselves as physio-medical practitioners. Operations had been performed on the deceased in 1918 and 1925 by a duly qualified surgeon. The latter, giving evidence at the inquest, said that in September last there was a malignant growth which was inoperable. Treatment by radium was considered but, after examination at Manchester, it was found that it would be of no value. Another opinion was obtained; it confirmed the view that the chance of recovery was hopeless; medicine was given to deaden pain and this was the only possible treatment. The husband of the deceased had previously told the coroner how his wife came to be treated last September by Mr. Charles Clement Abbott, of 56, Railway-road, Leigh, a "physio-medical practitioner." Mr. Abbott gave her medicine and ointment, the latter being supplied by Mr. Albert Gutteridge, 5, Knightsbridge-grove, Colne-road, Burnley, also a "physio-medical practitioner." Both these gentlemen gave evidence. The coroner questioned Mr. Abbott about a typewritten document signed by him and bearing his name and address printed at the top. It began, "I hereby certify" and purported, according to the coroner, to be a death certificate which an unregistered practitioner had no right whatever to give. Mr. Abbott answered that the word "certify" was his clerk's mistake; he himself had dictated the word as "notify." He had been instructed by a coroner that this was in order; he used, he said, the form "issued by our association." The East Lancashire coroner evidently found difficulty in believing Mr. Abbott; no coroner could have given any such instruction. Mr. Abbott's conduct, he said, was most improper. Mr. Abbott is reported to have rejoined, "I suppose I shall do it in future if anything occurs similar." The foreman of the jury asked

Mr. Abbott if he had not noticed at his last visit that the deceased was dying. The witness said he tried to help her; she had been "given up by the medical profession and human slaughterers." The coroner directed the jury that if they came to the conclusion that the deceased died even one hour earlier as the result of want of skill or neglect on the part of persons responsible, it would be improper to give a verdict that she died in a natural way. A verdict of "death from natural causes" was returned.

Bogus Doctor Sentenced

At Manchester assizes on Nov. 15th James Arthur Thompson, aged 41, described as a ship's doctor, pleaded guilty to nine counts of procuring, attempting to procure, and being in possession of morphine, and also of false pretences. Dangerous Drugs Act offences cannot be made the subject of indictment at assizes in England without the consent of the Attorney-General or the Director of Public Prosecutions; this consent had been obtained. The man's real name was not Thompson, nor was he a ship's doctor; his story, as given by the prosecution and by police witnesses in the assize-court was as follows: His real name was Eric Ronald Cox; he was a native of Leicester, aged 36. He was at one time certified insane, but was discharged from the mental hospital within a month, the doctor observing that he was a degenerate blackguard and a liar. Before the magistrates, Cox recently made a bogus confession of having murdered a girl. It is doubtful whether making a bogus confession is in itself a criminal offence; at any rate precedents for an indictment framed upon such an incident are rare. Cox had, however, provided ample grounds for a charge of false pretences. He was not entitled to be described as a doctor but he had called upon a Manchester practitioner and had represented himself as a member of the medical profession who had fallen on evil days. He produced letters purporting to come from a distinguished specialist and a professional association which addressed him as doctor. To the Manchester practitioner he told a tale of being the victim of tuberculous disease and of having become a drug addict through taking morphia to induce sleep. He said he was on his way to a Liverpool nursing-home. By this means he obtained 3*s.* 4*d.* for his fare, and also a supply of morphine. By a similar story he got a further supply of the drug two days later. He was next heard of at the Liverpool Southern Hospital where the house surgeon found no trace of the disease or pain from which Cox said he suffered; he was given an injection of sterilised water and put to bed, and the police were informed. On arrest he was found in possession of morphine and a hypodermic needle. His diary contained references indicating drug addiction. A letter had also been found on him showing that he had applied for the post of ship's doctor with a well-known Liverpool shipping firm. Mr. Justice du Parcq sentenced him to 20 months' imprisonment.

This is not the first case where an unqualified person has been found negotiating for the post of ship's doctor and masquerading under the name of a registered medical practitioner. A previous instance where a shipping company actually appointed an impostor and used his services on a voyage to Australia was recorded in THE LANCET last year (1931, ii., 1099). On the present occasion Cox chose the name of a registered medical practitioner with either good fortune or considerable skill. There are two medical practitioners named James Arthur Thompson on the Register; if the Christian names were placed in a different order and the surname were spelt differently, Cox's adopted alias had even more than two strings to its bow. The wider range presumably offered greater immunity from detection. It is a little hard that a registered medical practitioner should not only have his name borrowed without permission but should also find it attached to a criminal accused and convicted of fraud.

UNITED STATES OF AMERICA

(FROM AN OCCASIONAL CORRESPONDENT)

SICKNESS AND UNEMPLOYMENT

THE coincidence of unusually low sickness- and mortality-rates with a severe economic depression and its accompanying unemployment continues to excite comment both in political and scientific circles. Many have been ready to make the assumption that our poverty has actually done us good by compelling us to eat more moderately. This theory has been exploded by Dr. Donald B. Armstrong, of the Metropolitan Life Insurance Company, who points out that improved habits of eating could react only on mortality from the degenerative diseases; that such an effect would be observed only after a period of years, and that as a matter of fact the trend of mortality from this group of diseases is upward and not downward. Dr. Armstrong's explanation of the present low death- and sickness-rates is that we have been fortunate in not experiencing any epidemics of severe influenza in recent years. Such influenza as we have had has been mild and uncomplicated. The coincidence of depression and health is by this theory wholly fortuitous. That there is no observable increase of sickness as a result of the depression may be attributed perhaps to the strength of the public health machinery that was built up during the years of prosperity. Any weakening of this machinery at this time in the name of economy may well prove disastrous.

The adverse effect of poverty on the survival of the tuberculous is once again demonstrated in a recent publication of the Anti-tuberculosis League of Cleveland.[1] Comparison of the "low 100,000" with "high 100,000" in economic welfare gave the former a tuberculosis death-rate of 98 and the latter a tuberculosis death-rate of 20. Infant mortality was affected in only a slightly less degree.

However there is one cause of death not mentioned by Dr. Armstrong which in all probability has been favourably affected by the depression, and that is the automobile accident. The Travelers Insurance Company predicts a decrease of about 5000 deaths from this cause below the high mark reached last year; such a reduction would bring the total of automobile fatalities down to between 28,000 and 29,000 for the year 1932, or slightly more than the 1928 record. It will be interesting to correlate this decline in mortality with the decline in automobile registration and gasoline (petrol) consumption when the figures are available.

RAW *v.* HEATED MILK

Officers of the United States Public Health Service have made a study of weight and height of 3700 children between 10 months and 6 years of age. They found no significant difference between the average weight or height of children who have received no milk except heated milk, and the average weight or height of children who have received raw

[1] Tuberculosis and Economic Strata—Cleveland's Five-City Area, 1928–1931.

milk for more than the latter half of their lives, the insignificant difference in each case being in favour of the children receiving heated milk. On the other hand, parents of children receiving predominantly raw milk reported a higher incidence of diphtheria, scarlet fever, intestinal disturbances, and rickets than did the parents of the children receiving heated milk only.

STATE LIGHTING CODES

A survey of lighting codes in the different States has been published by the Women's Bureau of the U.S. Department of Labor (Publication No. 94). The subtitle, "A handbook for the protection of women workers . . .," no doubt expresses a conviction that such a survey is properly within the scope of the bureau. It is difficult to see why it is not equally valuable to men workers who use their eyes. Only 13 States are found to have lighting codes, and in only 6 of these is the code enforced as a law. The code of the American Standards Association for lighting factories, mills, and other work places is included in this publication.

THE DOCTOR'S DAY

"Come, tell me how you live," I cried,
"And what it is you do!"

III.—MEDICO-LEGAL CONSULTANT

THIS class of practice is essentially personal; it has to be built up little by little. The medico-legal expert has to gain a reputation for giving sound advice, since the decision whether or not a person is fit for work involves risk to others as well as to himself. The advice given may determine the payment of a considerable sum of money, and those seeking the advice may want to know one thing only—what is their liability. Even the simplest case may end in the courts, and facts—hard, stubborn, and incontestible facts—are the current coin of actions at law. Intuitions have less than no value when viewed in the light of cross-examination in the witness-box. Medico-legal work is, to a large extent, gauged by the examiner's capacity of diagnosing and prognosing. Cases sent by solicitors are a constant stimulus, and keep one mentally alert.

Time spent on making a thorough examination is never lost. One may not have another opportunity of supplementing a report. The tape measure and the X rays are indispensable. Notes should be taken at the time of the examination, otherwise they cannot be used later in the witness-box. Do not give a litigant any idea of your opinion of his case. He will tell his solicitor, who coaches the barrister, and you will find a rod in pickle awaiting you in cross-examination.

Twenty Cases in my Consulting-room

I have been asked to give notes of a day's work of one engaged in medico-legal practice. I choose an average day, of some time ago. The cases seen are not all litigious, but the majority are potential medico-legal cases. After a walk, the day's work begins. The morning post is my first care; it is ready for me soon after 9 A.M. I then dictate letters. Now my cases begin to arrive. I know beforehand my work for the day, for I see no cases but by appointment. To-day there are twenty cases to see before lunch, and the afternoon also is planned. As a result of experience, many of these cases can be decided in a few minutes, but many may take considerably longer. I insist on 24 hours' notice being sent of all cases to be examined, with full information of the previous history and all medical certificates which have been issued. This often necessitates the perusal of a somewhat voluminous dossier in each case, but the time spent on these is never wasted. If they are not forthcoming, I either postpone the examination or detain the patient whilst I telephone for the papers. Hence I know the medical history of all cases for the day, for it is my invariable practice to read carefully overnight the case-histories of all those coming the following day. Time is saved at the examination when one knows much of the case before the patient begins to make his complaints. The knowledge gained is useful too in showing the claimant that the examiner is acquainted with his case; it clothes the Examiner with an armour of omniscience which duly impresses the examinee. I do not listen to what I am told by a man as to what his doctor has said. If not fallacious, it is sure to be exaggerated, but I say that I shall be glad to consider anything in writing.

RUPTURE: CASE 1

My first case is that of a man alleging a rupture caused by straining himself whilst on duty. Few cases are more difficult than this to advise upon. Many an honest working man reports a rupture and says he has discovered it, but that he has no idea how and when it was done. With these the medical examiner has no difficulty. The liability is that of the workman. The real difficulty is where an employee finds a hernia and persuades himself, or is persuaded, that someone other than himself ought to pay for it. Many cases are of this nature. There are two important things in their examination. The first is, to see the case as early as possible, before the workman has had time to discuss the situation with friends, lawyers, trade-union officials, or even before he has consulted a doctor. Let the man tell his own story; to put a leading question is neither fair to the man nor his master. If, for instance, he is asked, "were you working when this happened?" such a question suggests the answer. What more natural than that the workman should blame some extra piece of hard work. Time after time I have reduced, by careful inquiry, the alleged cause to nothing more than a statement that the patient has been doing rather strenuous work lately; or that he attempted and failed to do a certain piece of work, perhaps a week ago, but had felt no pain in his groin at the time, nor since. If an employee once gives a definite time and place (within working hours) when the first signs or symptoms of a hernia occurred, he will adhere to it afterwards. A working man's logic in all hernia cases is *post hoc ergo propter hoc*. Even when trying to give an honest account of his condition, he believes that having discovered a rupture, his master ought to be made to pay for it. What in effect he says is, "my work at any time is hard, lately it has been extra hard, I had no rupture before I worked for my present employer, and certainly not before the extra hard work I have been doing lately. I do not know when the rupture occurred, but it *must* have been at work. If my employer must know the exact time and place, it is not my fault, if I am forced to supply it." There are a large number of hernia which are caused by work, but these are generally witnessed by fellow-workmen, or reported to a foreman at the time of the accident. The working man should have the benefit of a doubt, but there must be a doubt—and often there is none.

INJURY TO THE BACK: CASE 2

I have now to see an employee who is said to have injured his back. Simple time-saving devices cannot be despised. My favourite method with these back cases is to tell the man to take a chair and put his cap below it. If he has recovered, he generally (without thinking) bends his back and puts his cap where he has been instructed. When he does this I tell him that I can see he can bend his back and that he is obviously well and fit for work. He agrees, and much time is saved. Slight injuries to the back

are always unconsciously increased when the patient is stripped and thoroughly examined. But do not diagnose, however, without stripping if the case is likely to come to court, for you will be cross-examined and told you did not examine but merely "looked" at the patient.

ALBUMINURIA: CASES 3 AND 4

My third and fourth candidates are for employment. All candidates should have their urine examined. If it is brought in a bottle, or sent after the examination, you cannot tell that it belonged to the candidate. Two men were asked to urinate; one failed to do so through nervousness. I took the specimen of the other man to my testing room, examined it, and found albumin. Leaving it there to re-examine later, I sent the nervous applicant into the testing room alone. He soon produced the desired sample, and upon examination it also contained albumin. I told them that they both had albumin. The nervous one confessed then that when in the room alone he had used a little of the specimen I had left for further testing. Functional albuminuria in young adolescents is not uncommon, and the urine should be examined several times at intervals. The microscope and the intermittency of the albuminuria practically settles the diagnosis. A young lad was rejected for the Navy by the Admiralty chief medical examiner on account of albuminuria. By a judicious appeal I succeeded in getting the examiner to allow me to demonstrate that the condition was functional. This lad's career in the Navy was nearly cut short. Then again albumin in the urine with a small flocculent deposit gives a positive reaction to the ordinary reagents. If however a second specimen is immediately obtained, it may be found to be free from albumin. The explanation is that the nucleo-albumin (the result probably of a long-standing gleet) has been lying in the prostatic portion of the urethra, and is washed out with the first urination leaving the passage clear for the second specimen.

G.P.I.: CASE 5

I am never left long in ignorance of a mistake or an error of judgment when acting for a public body. The rule—which I see is strictly enforced—is that if an employee does not return to duty on the date on which I consider him to be fit for duty, he is sent to me again for re-examination on that day. I remember well an error I made some time ago; it was that of a clerk who was mentally and physically "run down" and evidently required a rest and change. He had been to the seaside, and returned after a fortnight declaring himself well and fit for work. I suggested to him he should have longer leave, but he would have none of it, and wished to return to work. I told him I had little difficulty in dealing with men who would not go back to work when I thought they ought to, but I had misgivings when they insisted on returning when I thought they were unfit. He persisted in his demand to be allowed to resume duty, and I gave way, and reported him fit. The next day he stole a cruet stand from a restaurant in the Strand—a foolish petty theft. He was apprehended, and imprisoned forthwith. His trial was fixed on a Monday morning, and my waiting-room was full. I felt that I had made a mistake, and must see the poor fellow through his trouble. Whilst he was in prison it was discovered that he had ordered three Rolls Royce cars; this was telephoned to me. I had then little doubt of the correct diagnosis. I went straight down to Bow-street and examined him. He had general paralysis of the insane. I sent up a message to the magistrate asking if he would kindly take the case first, as I wished to give evidence, and hinted that I was a very busy man. He agreed, and I persuaded him not to remand the prisoner in gaol as he intended doing, saying I would look after him. With some hesitation he consented, and I got the man into an asylum where he died in a few weeks. It was a very acute type. It is not our mistakes which condemn us so much as the way we behave subsequently.

CASES 6–12

The next case is that of a man with a dislocated internal semilunar cartilage. He had been operated on and was well on the road to recovery. Following him is an employee who has a cut median nerve. Then comes a typical British workman who some months previously had a serious tar burn. These burns are slow in healing, and if extensive and situated at the extensor aspect of joints are apt to relapse. This man's scar is an extensive one. There is much cracking of the scar tissue, and I advise him in regard to treatment. A robust man next hobbles in. He has sprained his ankle and has been off duty apparently much longer than is necessary. He has the idea of the accident on his mind, and appears to be unable to walk without the aid of two sticks. He is told to put these down and take off his shoes. By dint of persuasion eventually he runs on his toes round my room, and he is evidently surprised. He is told that he is fit for duty and that he had been so for some time, but in spite of his gymnastic efforts he uses his sticks when he leaves. It will be a struggle to get him back to work.

The next case is that of a comparatively young man who has had one eye removed on account of damage by a foreign body. His remaining eye is showing signs of sympathetic ophthalmia, and I dictate a letter to the ophthalmic surgeon who operated on him at the hospital. It will be some time before he can be considered fit for his work and then only in sheltered conditions, to minimise the risk to his remaining eye. He should of course have a "declaration of liability" on his return to work.

The following is a woman who had an extensive ulcer which she alleged was brought about by a knock whilst on duty. I had my suspicions in this case; she had appropriate rest and treatment all to no effect. On this occasion however she arrives with her leg in plaster-of-Paris, which was applied at my suggestion. I cut the plaster away and found the condition had almost healed. This suggests that the condition had been kept up by artificial means. I write to her doctor asking him to replace the plaster until the wound has consolidated.

Many have symptoms of overwork; sometimes with, and sometimes without the overwork, these are referred to me as neurasthenics. They have unbalanced nervous systems and it is curious to note that (except in incipient insanity) nearly all recover if they are encouraged, and sent off to the country without their sympathetic friends. Of such a class is my next patient. He is introspective and inclined to be sorry for himself, but he is encouraged and told to get away to the seaside for a fortnight. At the moment he is not hopeful of himself; but I have seen many such, and have noted the remarkable difference on their return from a short holiday.

It is obvious that my next patient has facial paralysis. He has been knocked down whilst at his work and sustained a fractured skull. It is now four months since his accident but he is of course a long way off work, and from my examination of him he will remain so for many months.

CASES 13–20

A garrulous man, prematurely aged, next appears. He groans as he walks. His foot is in a slipper; he has injured it many weeks ago and has been told to rest it. After examination I arrange for his foot to be X rayed and for a report to be sent to me. I can tell by his manner that he resents this, but he knows he must do as he is told.

The next patient has been off duty for some time with a broken humerus. A Wassermann test of his blood proves to be positive, and X ray examination

shows it is not a simple fracture but a syphilitic gumma of the humerus which had broken down. He alleges the fracture is due entirely to the work on which he is engaged, which was not heavy. His employer however is liable, for the actual incapacity arose "out of and in the course of" his employment and comes within the scope of the Workmen's Compensation Act.

The woman who follows is a widow who is suffering from traumatic neurasthenia. She fell some months ago from a chair and fractured her wrist. She is convinced that she cannot use her hand, and never will be able to do so. She is lacrymose and very emotional, and thinks that everyone is against her. Her wrist, which has recovered as much as it will do, is not in good alignment and this has affected her mentally. I have ordered her to the seaside for a month which may help to cure her mental outlook.

The next is a somewhat difficult case. It is one of silicosis, alleged to be due to his occupation—that of a grinder. Liability has not been admitted, and it has yet to be proved that his condition is due to his work. I arrange for him to be admitted to a chest hospital where it is hoped something may be done for him.

Next comes a case which has been diagnosed as a torn muscle of the right forearm. He has been off duty for a long time but still complains. After testing him with the electric battery and the trapeze, I assure him he has recovered and is fit for work. He protests, and I explain to him the nature of the tests and I can see that he knows the game is up. I tell him that he is fit for work and will be expected to do it, for he has recovered. He goes away sadly and from his manner I feel convinced I shall see him again.

A distressing case is that of my next visitor. He has paranoia, and has a typical delusion of this disease. He is perfectly well apart from his delusions, but he cannot hide them. I have seen a few cases which can do this, and they are doing good work, but they seldom recover and their home lives must be tragedies.

It is obvious that the weary man who next enters has not long to live. He has carcinoma of the stomach which he alleges is due to a blow whilst on duty. He is entirely ignorant of the nature of his disease and hopes that he may soon be fit for duty. He wants his "claim" settled, but this cannot be. I tell him I will advise two months' leave. He thanks me and I am glad that he does not yet appreciate the position. I suspect that he does.

Afternoon in Court

And so they come. I have to give decisions on all these cases, and they must be judicial and impartial. Not only the man but the employer must be considered. I am not engaged to dispense vicarious charity, but to act as a judge and hold the scales fairly. My patients have all gone, I dictate my longer reports, and have a brief interval before my afternoon session commences.

On this day I am obliged to attend the county court to give evidence in the case of a man who sustained an injury to his shoulder. He has long since recovered, but he is obsessed with the idea of a lump-sum settlement, and it is for this reason that his case is being brought before the court for arbitration. I am to be in readiness to attend at 2.30 P.M. I look over my notes on the case and in due course I go into the witness-box. I am examined and cross-examined. I leave the court at 3.15 P.M. and go direct to a consultation with an X ray consultant. The case has already been put down in the county court for arbitration proceedings. This man sustained an injury to his back and now alleges that he is unable to walk, that his knees give way, and that he is generally incapacitated. I have arranged for his back and hips and knees to be X rayed, and as is my usual custom, I follow the X ray plates into the dark room and initial them. Later, when the case comes to court I shall be able from my initials to identify the films and explain the plates to the court from hints given to me by the radiologist. The case is a difficult one and the X ray plates are indispensable. My report will not be written until I have the X ray films and report from the radiographer.

I arrive home at 5 P.M. My morning correspondence and reports are ready for signature and the morrow's cases are ready for my perusal. The day's work is completed.

THE SERVICES

ROYAL NAVAL MEDICAL SERVICE

Surg. Rear Admiral J. H. Fergusson is placed on the retd. list at his own request in order to facilitate the promotion of younger officers.

Surg. Capt. J. McCutcheon (retd.) to be Surg. Rear Admiral (retd.).

Surg. Capt. G. L. Buckeridge to be Surg. Rear Admiral.

Surg. Lt. G. Phillips to be Surg. Lt.-Comdr.

Surg. Lt.-Comdr. A. L. McDonnell is appointed to *Pembroke* for R.N.B., Chatham.

ROYAL ARMY MEDICAL CORPS

The undermentioned to be Majs.: Capts. D. J. H. Jones and R. Murphy.

J. Taylor is granted a temp. commn. in the rank of Lt.

ROYAL ARMY RESERVE OF OFFICERS

Capt. W. G. Burns, from Supp. Res. of Off., to be Capt.

TERRITORIAL ARMY

Maj. H. A. Rowell, R.A.M.C., to be Divl. Adjt., 46th (N. Midland) Div., vice Maj. D. S. Martin, vacated.

Capt. P. F. Palmer, R.A.M.C., to be Divl. Adjt., 50th (Northumbrian) Div., vice Maj. W. C. Mackinnon, vacated.

Maj. G. E. MacAlevey, R.A.M.C., to be Divl. Adjt., 53rd (Welsh) Div., vice Capt. W. L. S. Cox, vacated.

Capt. J. R. Griffith having attained the age limit retires and retains his rank, with permission to wear prescribed uniform.

Lt. M. De Lacey to be Capt.

Lt. A. W. Marsden, from T.A. Res. of Off. (Gen. List, Inf.), to be Lt.

S. G. French to be Lt.

INDIAN MEDICAL SERVICE

Capt. (on prob.) B. R. Tandon to be Maj. (prov.) (on prob.).

Lt. (on prob.) M. G. Saincher to be Capt. (prov.) (on prob.).

ROYAL AIR FORCE

The undermentioned are granted short service commissions as Flying Officers for three years on the active list: E. Donovan, J. F. Sandow, T. D. L. Bolan, and R. E. W. Fisher.

Dental Branch.—C. R. Stone is granted a non-permanent commission as a Flying Officer.

Flight Lt. A. R. H. Bennett relinquishes his temporary commission on completion of duty.

HOSPITALS AND THE BURDEN OF ROAD ACCIDENTS. The statistical report of the East Suffolk and Ipswich Hospital for the year ended Sept. 30th last shows that the number of accident in-patients treated to a conclusion was 442; of these 281 were general and 161 road-traffic accidents. The general accident cases occupied beds for 9037 days and the road accident cases for 6311 days. Calculated on the basis of 9s. per occupied bed per day the costs incurred for the road cases amounted to £2839, and for the general cases to £4066, a total, including odd shillings, of £6906. These figures do not include the cost of subsequent out-patient treatment of these in-patients or of accidents out-patients who numbered a fraction over 5000. The following figures give the percentage which each class of road-traffic accident bears to the whole number admitted as in-patients: motor-cycles (including pillion riders), 42 per cent.; pedestrians injured by motor-cars and motor-cycles, 24 per cent.; cyclists injured by motor-cars and motor-cycles, 22 per cent.; motor-car drivers and passengers in motor-cars injured in motor accidents, 12 per cent. Of the road-traffic patients 59 per cent. were members of the contributory scheme. Under the Road Traffic Act insurance companies paid £366, which included some claims from the previous year. Patients whose claims were not admitted by the companies paid £128. The loss to the hospital was thus £2344. The average stay in the hospital was 19 days, whereas the average stay of the road-traffic cases was 39 days; 14 of the patients died. During one week-end in the holiday season, 22 emergency cases had to be put into extra beds, all the others being occupied.

CORRESPONDENCE

REACTIONS FOLLOWING TUMOUR IRRADIATION

To the Editor of THE LANCET

SIR,—The question whether radiotherapy has in addition to its local action also a general therapeutic effect is of such outstanding practical importance and of such a complexity that it should be possible to discuss it and express differences of opinion and interpretation without the introduction of controversial irrelevancies.

The lengthy letter by Prof. Sidney Russ and Drs. H. Chambers and G. M. Scott in THE LANCET of Nov. 12th (p. 1078) refers to many points which do not seem to me strictly relevant to this question. In order to limit my reply to a reasonable length I shall confine myself to the discussion of two essential points raised by the writers of the letter —namely, the objection of inadequate technique and in particular inadequate filtration, and further, whether the production of "immunity" as the writers call it, or "resistance" as I prefer to describe it, is of any therapeutic value in the treatment of cancer by irradiation.

Nobody knows better than the writers of the letter why, in radiating animals, one wishes to restrict the time of exposure, and therefore only uses a light filtration. This technique has been used by other workers [1] on this subject without eliciting any protest from Prof. Russ. I have, however, specifically investigated whether a more complete removal of β rays in any way alters the biological effect. If the writers will read my paper more carefully they will find on pages 114 and 115 a statement that I have obtained the same biological effect with irradiation filtered through 0·7 mm. of lead. The ex-cathedra criticism that under the conditions of irradiation employed by me the effects would differ in the superficial and deeper parts of the small irradiated tumours used, is not borne out by the histological examination, and is negatived by experiments in which the part of the tumour nearest to the skin and that most distant from it were transplanted separately without showing any difference. Several such experiments were carried out varying the times of exposure, and one of them is reproduced in Chart 5, page 107. The charts show that with the technique employed clinical cure follows. Whatever Prof. Russ thinks of the technique it satisfied the tumours, and I take the liberty to prefer their judgment. I have analysed the process. I particularly referred to the findings of Ewing, and the more recent ones of Miss Pullinger on human material treated by radiotherapy as showing that in man, as in my experiments on animals, the effect of radium is not confined to the malignant cells. If Prof. Russ and his colleagues wish to attribute this effect to imperfect technique, I leave them to the tender mercies of the radiologists who were responsible for the treatment.

This is not the first time that Prof. Russ has used the argument of inferior technique against those who happen to be unable to confirm his results. He used it [2] against Wood and Prigosen who, on the basis of their experimental results, had condemned the application of his method to the treatment of cancer in man as both useless and dangerous. To this criticism of inferior technique Wood replied [2] that Russ did not have the monopoly of adequate technique, and Wood was able to close the discussion by publishing the fact that in one case treated "in England" extensive metastatic growth had resulted from the inoculation of material which was supposed to have received a lethal dose of irradiation.

If I have erred in my paper it is in not having disclosed the full strength of the evidence against the conceptions of Prof. Russ and his collaborators. This letter should correct this omission. The negative results obtained by Wood and Prigosen were confirmed in two publications by Krumbhaar,[3] not mentioned in my paper. The argument of inadequate technique can surely not apply to the results of Mottram's experiments on spontaneous mouse tumours treated by inoculation with irradiated material, for in this case the irradiation was performed by Prof. Russ himself. Nevertheless, the results were entirely negative. Dr. Mottram's conclusions were: "The treatment of mice bearing spontaneous tumours by the inoculation of irradiated tumour has no influence on the growth of these spontaneous tumours. The results obtained with inoculated cancer do not justify the treatment of cancer patients in a similar manner." Mottram begins by showing why the phenomenon of immunity is not likely to be of any therapeutic value, using the same arguments as I have done. Thus Mottram emphasises a point of fundamental importance in the application of the phenomenon of immunity to the treatment of cancer in man. This point is the difference which has been found to exist between homoplastic tumours—i.e., tumours resulting from the inoculation of cancer cells into new normal animals—and autoplastic tumours—i.e., tumours resulting from the inoculation of cancer cells derived from a spontaneous tumour into the same spontaneously affected animal. Prof. Russ and his colleagues have persistently failed to take account of this difference, and although I have drawn attention to it again in my paper they again pass it over in silence. I will therefore restate briefly the known facts. Immunity or resistance has so far been demonstrated clearly as being effective against a homoplastic transplantation. It is less effective, if it is effective at all, against the autoplastic transplantation of a spontaneous tumour. There is a fairly general consensus of opinion that it is ineffective against the growth of a homoplastic tumour which is already established when immunity is induced. It is ineffective against the growth of an autoplastic tumour which is already established. Now a cancer patient in whom metastases have developed represents an organism with a spontaneous tumour and one or more established autoplasts of this tumour. Even if we admit, for the sake of argument, the most extreme claims made by Prof. Russ and his colleagues on the basis of their experiments, their conclusions would still only apply to normal animals with homoplastic tumours, and not to the conditions represented by patients suffering from cancer.

I am not sure whether the final sentence of their letter is intended to mean that Prof. Russ and his colleagues claim to be in possession of a strain of the Jensen rat sarcoma which behaves not like a

[1] Mottram, J. C.: THE LANCET, 1928, ii., 966; Brit. Jour. Radiol., 1932, v., 643.

[2] Jour. Cancer Research, 1926, x., 113.

[3] Ibid., 1925, ix., 316, 323.

homoplastic tumour but like an autoplast of a spontaneous tumour, and differs in this respect from all other transplantable animal tumours. If this is their meaning I must for the sake of brevity content myself with the statement that this is an assertion without a scrap of evidence to support it and is not borne out by the charts and tables published by Russ and Chambers. At any rate Mottram's experiments with tumours which were undoubtedly autoplasts are not lacking in finality. But when they appeared Prof. Russ remained silent, and I am at a loss to understand why he should now pour the vials of his wrath over my head for venturing to mention the fact that other workers have disproved his contentions.

In their concluding paragraph Prof. Russ and his colleagues write:

"The evidence seems to us conclusive that in the case of transplanted tumours in rats the absorption of tumour tissue can lead to the development of acquired immunity, and this can affect an established tumour, and it persists throughout the animal's life. Radiation is one method of causing the absorption of tumour tissue."

This statement conveys the suggestion that the question at issue is whether the absorption of tumour tissue after irradiation or otherwise can lead to the development of an acquired immunity against a subsequent homoplastic transplantation, and that I had denied it. I am the last person to do so because I happen to have discovered it more than 25 years ago in mice in which a tumour disappeared under the influence of radium. What I question is that this condition of immunity which prevents a subsequent homoplastic inoculation of a tumour from being successful, affects the growth of an established homoplastic tumour and a fortiori the growth of an established autoplastic tumour. So far as I know the majority of workers in this field hold the same view. I have already quoted Mottram's paper. Woglom, in a review of the whole subject entitled Immunity to Transplantable Tumours [4] in which he discusses and surveys the results of hundreds of papers, including those of Prof. Russ and his colleagues, finishes up with the following conclusion:

"Resistance is effective during the first few days following inoculation, but entirely powerless against an established tumour. Nothing may accordingly be hoped for at present in respect to successful therapy from this direction."

Lastly I will quote Prof. Russ himself. In a lecture entitled Principles and Facts in the Development of Radium Therapy especially in Relation to Malignant Disease,[5] he lays down a number of principles. Principle No. 6 is:

"The limiting principle is that in radium therapy there is very little clinical evidence for thinking that it is anything more than a form of local treatment."

This statement does not seem to agree with the views expressed in the final paragraph of the letter. In the further discussion of this principle Prof. Russ writes:

"The charts in Fig. 11 show that the tumour of the rat may continue to grow at its accustomed rate in spite of the fact that an irradiated tumour is rapidly disappearing simultaneously in the animal, and yet these disappearing tumours eventually set up a condition in the animal which make it more difficult for tumour cells to *grow* (my italics) in that animal. This is seen in Fig. 12. The experimental method here has been to inoculate rats with irradiated tumour cells, and then some weeks later to give them an inoculation with the same strain of non-irradiated tumour tissue. Some such process may be operative in man, but it seems almost always to be too weak to influence a tumour already established and growing vigorously."

I agree with this statement so far as the facts are concerned, although I take exception to the way in which they are presented. The italicised word "grow" is used in a loose and inaccurate manner. What the experiments referred to show is that cancer cells already established, when immunity is induced, will continue to grow, but that when inoculated homoplastically after immunity is induced, they cannot establish themselves so as to form a new tumour. But whether one agrees with this criticism or not the final sentence expresses clearly the view that the therapeutic value of this condition of immunity or resistance is nil.

I have not exhausted the arguments or the quotations from the literature which I might bring against the views of Prof. Russ and his colleagues, but I will not weary your readers and waste your space by flogging a horse that has been dead for donkeys' years.

In the present state of our knowledge it is a serious error to suggest that radiotherapy is anything more than a local form of treatment. It is not logical to imply that I consider any further therapeutic advance impossible, because I am of opinion that the methods advocated by the writers of the letter do not constitute such an advance. The papers published from this laboratory and the policy recently pursued by the Imperial Cancer Research Fund of supporting an outside worker in his investigations on a combined method of radiotherapy and colloids are a sufficient answer to that suggestion. But in order to make further progress possible we must realise the limitations of the methods available at present and understand why previous attempts on the lines hitherto pursued have failed. The importance and the complexity of the problems involved will I hope be accepted as an excuse for the inordinate length of this letter.

I am, Sir, yours faithfully,

W. CRAMER.

Imperial Cancer Research Fund, Queen-square, W.C., Nov. 17th, 1932.

[4] Cancer Review, 1929, iv., 129.
[5] Glasgow Med. Jour., April, 1930, p. 169.

LEUCOCYTE COUNT IN ACUTE APPENDICITIS

To the Editor of THE LANCET

SIR,—At a recent discussion on the treatment of acute appendicitis reported in your columns (Nov. 12th, p. 1053) several of the speakers referred to difficulties in diagnosis. Dr. Morley Fletcher, for example, suggested that not infrequently appendicectomies were performed under a mistaken diagnosis—e.g., in typhoid fever; other speakers alluded to the difficulty in certain cases of deciding whether suppuration and abscess formation had actually occurred, or whether the inflammatory mass surrounding an appendix was likely to subside without discharging pus into a hollow viscus if surgical treatment were withheld. The advisability of counting the leucocytes and estimating the proportion of polymorphs was not alluded to by a single speaker, and yet this is undoubtedly a most valuable aid to forming a correct conclusion as to the advance or regression of the inflammatory condition and the advisability of operation. Is it possible that this old-established and well-recognised diagnostic help is falling into disuse?

I am, Sir, yours faithfully,

Ipswich, Nov. 15th, 1932. HERBERT H. BROWN.

ANALGESIA AND ANÆSTHESIA IN OBSTETRICS

To the Editor of THE LANCET

SIR,—May I as a very general practitioner, add a few words on the subject of analgesia and anæsthesia in labour to the many that have been published in your journal this year as coming from specialists? I work entirely alone in this small town (population 600) which has a large surrounding, non-competitive territory. I am not an expert anæsthetist. My obstetrical cases are very often to be found in isolated spots, many miles from the nearest professional help, should it be necessary to ask for it. Roads are rough; and many a time I have abandoned my car to proceed in a commandeered wagon, on horseback, or on foot. The surroundings in which I have to work vary from clean comfortable homes to the extremes of poverty and squalor—converted chicken sheds, cow sheds, and once a covered Ford truck in a field having served as delivery rooms. Dirt floors are common; flies usually abound in the warm weather in the unscreened houses (which are in the majority), and I have, on different occasions, chased pigs, chickens, ducks, and dogs out of the room. Kindly neighbours serve as my assistants and nurses; running water in the houses is unknown; dim oil lamps compel me to use a pocket battery and head light; and equipment beyond that which I can carry in my bag is too often limited to a clean hand towel, and a bar of toilet soap purchased in my honour for the occasion.

I fear no such conditions were in his mind when Mr. Leslie Williams discussed "practical methods which can be used by practitioners" at the St. Mary's Hospital post-graduate course (Oct. 8th, p. 804). Any method of twilight sleep which *should be* supplemented in the second stage by gas and oxygen, or which *may* require the use of CO_2 for the apnœic baby is not available to the practitioner. Chloroform capsules are not likely to be of service in a normally prolonged first stage, during which time the labouring woman is just as much entitled to relief as during the latter part of the second stage.

I have followed O'Sullivan and Craner's [1] method of administering nembutal and chloral in all my suitable cases since the publication of their report. Suitable cases at first were few, because of the advanced stage of labour on my arrival. Now, however, I give these drugs if I believe that I shall have sufficient time to observe the ten-minute interval between the two; for I find that thereby the patient after waking from the post-partum sleep appears to be much more refreshed than when they are not given. The following is a brief summary of all cases in which I have used nembutal and chloral:—

Of ten cases receiving nembutal grains 4½ and chloral grains 60, or more, seven know nothing of their labour, one was very quiet throughout but remembered everything, and two received no benefit. Of eight cases receiving nembutal grains 3 and chloral grains 30, seven were quiet throughout but remembered everything, and one received no benefit. No untoward after-effects have been noted in all 18 cases.

I have no comparative statistics to offer; since among my last 100 consecutive deliveries, including the above, there are no cases of puerperal infection as determined by symptoms, temperatures, and pulse on the third post-partum day, and subsequent history; no maternal deaths; two infantile deaths from intracranial hæmorrhage, both cases of labour so precipitate that delivery took place before my arrival; one forceps delivery (prior to the above 18 cases).

I have however been impressed by the remarkable expressions of gratitude from the mothers who have derived benefit from this method; and I hope that Drs. O'Sullivan and Craner will accept this, together with my own profound gratitude, as their just due for bringing this method to the notice of general practitioners.

I am, Sir, yours faithfully,

CECIL RIGGALL, M.D.

Prairie Grove, Arkansas, U.S.A., Nov. 5th, 1932.

[1] THE LANCET, 1932, i., 119.

THE POLICY OF SCHOOL-CLOSURE

To the Editor of THE LANCET

SIR,—With all due respect I would submit that the desirability or otherwise of closing residential schools during epidemics is not quite settled by the circular of the Ministry of Health, dated Oct. 24th. In arriving at their conclusion the Ministry seem only to have taken into account a single factor of the problem. Of course, one must admit the theoretical possibility of secondary epidemic foci occurring if dispersal of the inmates of an institution is allowed, but it seems, if one may say so, a very puerile mode of reasoning which looks no further into the matter than that. It will, I think, be generally agreed that when infectious disease breaks out in an institution the incidence-rate amongst the inmates is very high, far higher than when the same disease occurs amongst the general population in any area. Furthermore, the disease tends to be of a more virulent type; and if it is a disease dangerous to life the mortality-rate is often much above the average.

These peculiarities one would naturally expect when one considers the necessarily intimate contacts which prevail amongst inmates of institutions, and the stereotyped food, occupations, and exercise with resultant lowering of their resistance to disease. A susceptible individual then who is an inmate of an institution where an epidemic has broken out will, if he remains there, run a much greater risk of contracting the disease, and in a severer form, than he would have done as a member of the community at large. It seems clear in so far as the inmates are concerned that their immediate dispersal at the first appearance of an epidemic is likely to result in fewer cases amongst them than if they were kept herded together; for it is inconceivable that all of the large number of cases which, as experience shows, generally results when the inmates are quarantined could have followed a simultaneous infection from the first case.

It is certainly then of advantage to the individual to be removed as quickly as possible from the zone of infection, and if this can be done without the interests of the community at large suffering I think it will be generally agreed that it *should* be done. Assuming (what is not necessarily true) that a proportion of the dispersed inmates are carriers of the infection, one has to consider what their potentialities for mischief may be. Obviously these depend almost entirely on two factors: (1) the infectivity of the disease, and (2) the home environment of the inmate. Clearly, if the disease is of high infectivity, as in the case of virulent small-pox, plague, measles, and possibly scarlatina, a person in the early stages of the disease might be the cause of a secondary epidemic occurring amongst susceptible persons in his vicinity. But, on the other hand, where experience has shown the infectivity of the disease to be low, diseases where more intimate and more constant contact seems to be necessary for infection to occur, and in this category one may place anterior poliomyelitis,

variola minor, encephalitis lethargica, pneumonia, diphtheria, &c., it would seem (subject to the second consideration) that the chances of secondary epidemics occurring by the setting at liberty of a possible case are really very small.

The consideration of the home environment is of importance chiefly in connexion with the diseases of low infectivity. Given a good middle- or upper-class home where the inmates are practically segregated from each other and outside intercourse runs on well-defined lines, the chances of transmission of this type of disease are probably in any event very small, and will be reduced to a minimum when the relatives are aware of the possibility; for in this class of society people are only too willing to coöperate in taking every suggested precaution. Amongst the lower classes it is equally certain that the risk of a local outbreak following the return home of a carrier is much greater, the conditions of his home environment approximating to those of an institution.

In considering the question of closing an institution on the outbreak of an epidemic, I submit then that it should be decided by applying the following general principles:—

1. Dispersal is in all cases of advantage to the inmates themselves.

2. If the infectivity of the disease is high the risk to the community of disseminating it over a wide area negatives the dispersal of the inmates.

3. If the disease is of low infectivity and the home environment of the inmates is reasonably good, they should be sent home with full instructions to their relatives and notification to the local M.O.H. of the presence of contacts in his area.

4. If the inmates of the institution are drawn from overcrowded poor homes, the interests of the community render it desirable to quarantine them in the institution.

I am, Sir, yours faithfully,

Beckenham, Nov. 12th, 1932. CHAS. E. THORNTON.

SUN-GLARE IN IRAQ

To the Editor of THE LANCET

SIR,—I have read your annotation (p. 1119) with interest and should like to offer some additional hints on the prophylaxis of sun-glare as my own service in latitude 22° to 32° N. cannot be very different from that of Squadron-Leader P. C. Livingston in latitude 27° to 37° N. In my experience the most important points are first the correction of small amounts of ametropia under homatropine cycloplegia, and second the elimination of such areas of focal sepsis as can be detected. While oral sepsis is the more common, tonsillar suppuration and adverse fermentative changes in the alimentary tract should not be neglected.

Recently I have had under my care an official from East Africa who had been invalided on account of severe asthenopia, as manifested by intolerance of light and excessive lacrymation. Detailed examination showed that his small error of refraction had been adequately corrected, that his muscle-balance was normal, that he had no ocular disease of any kind, and that his perimetric fields were full. Dental radiography showed that he had two unerupted and impacted wisdom teeth and also a dead bicuspid with an abscess at its root, of course painless. The offending teeth were removed under general anæsthesia and three weeks later the patient assured me that all his disabling and uncomfortable symptoms had disappeared.

Any reduced state of health as the result of malaria or gastro-intestinal disturbances may result in such a depressed condition of vitality that the ordinary disabilities of life in a hot climate become an irritative burden. Among these inconveniences bright sunlight is especially annoying. In a paper "Tints and their Value,"[1] Sir Arnold Lawson, who had the assistance of Dr. Judd Lewis, described an investigation into the transmissibility of rays from various parts of the spectrum through differently tinted glasses. He found that against the harmful infra-red rays peacock-blue, London Smoke IV., and Crookes B 2 were the most effective.

I write this with the hope that those who live in places where the sun is very bright, especially where it is reflected into the eyes from the sea or from the desert sand, may realise that they will have less cause to complain of sun-glare if they get all possible sources of focal sepsis eliminated. Great importance should be paid to the correction of small errors of refraction, which should be incorporated in any dimming glass which is found necessary for use out of doors in the sun, or such correction may be worn underneath dimming goggles.

I am, Sir, yours faithfully,

Welbeck-street, W., Nov. 20th. A. F. MACCALLAN.

CHLOROFORM CAPSULES

To the Editor of THE LANCET

SIR,—With reference to my article in THE LANCET of Nov. 12th (p. 1059) describing a mask for use with chloroform capsules I find I have made an unfortunate mistake. The capsules used with the mask were made by Messrs. J. F. Macfarlan and Co., of Edinburgh and London, and supplied to the Middlesex, Queen Charlotte's, and other hospitals free of charge by the National Birthday Trust Fund.

I am, Sir, yours faithfully,

Middlesex Hospital, W., Nov. 17th. L. H. LERMAN.

UNEMPLOYMENT AND RESEARCH

To the Editor of THE LANCET

SIR,—In your correspondence columns last week Sir F. Fremantle urges the need for more scientific research to solve present-day troubles, yet it is plain that much of the muddle has been brought about by lop-sided applications of the very remedy he suggests. If we know what we want, some science or other will help us to gratify our desires, so long as we care to pay the price, but it cannot, with any confidence, tell us whether the desires themselves be wise or foolish, good or bad. To multiply research is to pile more pieces on an already disordered jig-saw puzzle, but the bits will not fly together of their own accord. It may well be argued therefore that further collection of facts is less desirable than more wisdom and judgment to coördinate and direct the application of facts already known. Science begins with axioms, true or partly true, which can be apprehended but not proven, yet it is astonishing how often a clear statement of these fundamentals is evaded.

Whether we discuss a nation, a human mind, or a body, the primary questions must surely be the same—(*a*) under what conditions do living organisms develop and prosper? (*b*) What goal are we seeking?

I am, Sir, yours faithfully,

Wellington, Salop, Nov. 20th, 1932. A. R. MCCLURE.

[1] Proc. Roy. Soc. Med., vol. xviii., Part III., Sect. of Ophth., p. 24.

UNEMPLOYMENT AND HEALTH

To the Editor of THE LANCET

SIR,—I have read with considerable interest the leading article in your issue of Nov. 12th entitled Unemployment and Health. There can be no doubt that there are at the present time a good many individuals who find it an exceedingly difficult task to obtain sufficient of the necessities of life to maintain their health and vigour. This is especially the case with townspeople with large families, who are compelled to pay relatively large sums for their accommodation, owing to the refusal of owners and agents to let rooms to people with children. The medical officer of health for Hammersmith in his annual report for 1931 examines the budgets of a good many working-class families, both employed and unemployed, and finds that when rents are paid there is in many cases a very small surplus left to provide food, clothing, and other necessities of life. Amongst the unemployed this may be, according to his statements, as little as 2*s.* 8*d.*, 2*s.* 4*d.*, 1*s.* 11*d.*, or even 1*s.* 7*d.* per head, and amongst the employed may come down as low as 3*s.* 8*d.* or 2*s.* 9*d.* There is no reason to suppose that conditions are exceptional in the Hammersmith district, and there can be no doubt that the reduction of the standard of life which is necessitated by conditions such as the above is liable to cause definite deterioration in both physical fitness and resistance to disease.

Even with prices as low as they are to-day a sufficiency of food of the right sort implies a considerable weekly expenditure. Dr. G. P. Crowden [1] regards 7*s.* a week as the minimum cost of the food necessary for a labouring man. Dr. Caradog Jones, as the result of a social survey carried out under the auspices of the University of Liverpool, puts it at 6*s.* 3*d.* The members of the Advisory Committee on Nutrition of the Ministry of Health, in a report on the Diets in Poor-law Children's Homes (1932), state that the food that they recommend for such children will cost 4*s.* 6½*d.* per week, provided that all provisions are bought at contract prices. Now it must be evident that if the above statements are correct a good many families have not at the present time sufficient coming in week by week, after the rent is paid, to provide themselves with a sufficiency of food, even if we assume that nothing is being spent on cleansing, warming, lighting, clothing, and other necessities. It must of course be admitted that in cases of unemployment of short duration, previous savings in money or kind may be drawn upon and some amount of assistance from relations and friends looked for. But the present prolonged period of unemployment, the impoverishment of those around, and the application of the means test, make these adventitious sources of income negligible in many cases, with the result that the family has to depend entirely upon unemployment benefit or public assistance relief which, as has already been shown, are entirely insufficient to keep their recipients in physiological health.

Because the members of the medical profession can alone be fully cognisant of the importance of the issues involved, it is, I think, both their privilege and their duty to do their best to protect their fellow-countrymen, and especially the children of the nation, from that physical degeneration which is certain to follow a deficiency of the right sort of food. It is of the greatest importance that the standard of our national stock shall be maintained, and it is the object of this letter to urge upon my colleagues the necessity for dealing with every case of malnutrition due to poverty that comes before their notice by reference with a brief note to the relieving officer, as this official is bound by Act of Parliament to provide nourishment when this is needed.—I am, Sir, yours faithfully,

SOMERVILLE HASTINGS.

Devonshire-street, W., Nov. 22nd, 1932.

[1] The Minimum Cost of Physiologically Adequate Diets for Working-class Families, THE LANCET, 1932, i., 899.

FESTINA LENTE

To the Editor of THE LANCET

SIR,—I spoke rather quickly when I had the honour of addressing the Harveian Society on Nov. 9th, and it would take too long to draw attention to the many places where I should like to elucidate your industrious reporter's record (Nov. 19th, p. 1109), but I must crave your indulgence to make just one reference. I was talking of Wheelhouse's operation, and deploring the fact that many of the younger surgeons seemed to be so hasty in giving up the effort to find the proximal urethra, and were ready for an excuse for making a suprapubic opening either for the purpose of retrograde catheterisation or for establishing drainage by that route. I told my audience that in an experience of over 30 years I had only once had to fall back on a suprapubic in such circumstances, but went on to state that many times the perineal operation was tedious and taxed one's resource and patience sorely. To meet such eventualities I suggested that it should only be approached calmly and without hurry, and that the surgeon should make up his mind that he would not be rattled into adopting some expedient that might be more facile than prudent.

To give point to my remark I told them of an occasion when the late C. B. Lockwood came to Newcastle to deliver a lecture on amputation before one of the medical societies. He related how a friend of his had written to him confessing that he had never done any surgery, but that he contemplated commencing his career by an amputation at the hip-joint, and begging Lockwood to give him a little advice. Before entering into technical details Lockwood told his friend that the most important thing was to approach the operation in a suitable frame of mind, and he recommended by way of preparation that he should take care to have a good night's sleep and a hearty breakfast! His reply has always struck me as most apt, and I have frequently borne it in mind, and have quite commonly referred to it in all seriousness. This advice by a great surgeon, whose teaching I constantly admire, might well be borne in mind, but one must be prepared for the type of person who requires trephining to enable him to see a joke, even when meant to convey an important lesson.

I am, Sir, yours faithfully,

G. GREY TURNER.

Newcastle-upon-Tyne, Nov. 21st, 1932.

QUEEN ALEXANDRA HOSPITAL FOR OFFICERS.—The thirteenth annual reunion dinner of this hospital was held on Nov. 18th, with Lord Melchett in the chair. Over 40 of the former patients and members of the staff were present. Major W. B. Binnie responded to the toast of the Former Patients, proposed by the chairman, and the toast of Our Guest (the Rt. Hon. J. C. C. Davidson, whose father, the late Sir James Mackenzie Davidson, was consulting radiologist to the hospital) was proposed by Mr. Herbert Paterson.

GENERAL MEDICAL COUNCIL

PRESIDENT'S ADDRESS

In opening the 136th session, on Nov. 22nd, Sir NORMAN WALKER, the President, spoke with regret of the retirement from the Council of Mr. Monsarrat, for reasons of health, and of Sir Humphry Rolleston, who makes way voluntarily for Dr. Langdon Brown his successor in the chair of medicine at Cambridge. Dr. J. M. Beattie replaces, he said, Mr. Monsarrat as representative of the University of Liverpool. The President noted with regret the death of Dr. Matthew Hay, a former member of the Council; and he congratulated Sir Henry Brackenbury, a member of the Council, and Sir Richard Needham, who had given much help to the Council as an inspector of examinations, upon their knighthoods.

THE SIGNING OF MEDICAL CERTIFICATES

The President then referred to a communication received from the Ministry of Pensions which led to a discussion with the Ministry of certain difficulties in connexion with the certificates appended to applications for war pensions. The results of the discussion being reported to the Executive Committee of the Council, that body have advised the Council to modify Warning Notice No. 1 to include explicitly war pensions, while the President pointed out that these certificates call for scrupulous precision, and that statements of applicants should not be accepted unsupported by personal knowledge.

MEDICAL EDUCATION: THE RESULTS OF INSPECTION

Under this heading the President said: "The cycle of inspection under the 1886 Act is now complete, and the report of the Examination Committee on it will be in the hands of members to-morrow. The completion of this, the fifth inspection, may quite suitably be described as one of the milestones marking the Council's onward progress, after passing which we have to consider whether any, and if so what, changes in our resolutions and recommendations on medical education and examination are called for. Members have received copies of the reports of the inspectors on the examinations of each individual body, and also a very valuable general summary by each inspector on his own subject. From these I am going to make three short quotations, particularly worthy of note by all interested in medical education. Dr. Wardrop Griffith says (p. 10):

> 'The subject of medicine, as it now exists, is a very large one; and its scope tends, year by year, to increase. It is true, as we all trust, that the facilities to the students also increase, and that many a man who is honestly distressed by the thought of how much a student in these days has to master, would be comforted if he understood better the relationship between instruction and examination that now exists.'

"Mr. Farquhar Macrae, the inspector in surgery, concludes his report with this pregnantly significant sentence:

> 'It would, I think, be wrong if I were to finish this report without stating that, though one hears a great deal about the medical students' course being too exacting, the impression I gained was not in support of this view. On the contrary I found invariably that, where the demand by the teachers and local examiners was for a high standard of knowledge, that standard was attained by the average student; while, where the converse was the case, the amount of knowledge possessed by the average candidate was at a comparatively low level.'

"Dr. Fairbairn makes many sage comments on the methods of conducting the written and oral examinations in midwifery; and, in reference to the clinical part of the test, says he has

> 'been greatly impressed by the great progress that has been made by the universal adoption and the generally satisfactory character of this portion of the examination in midwifery.'

"After the Examination Committee's report has been received by the Council, and certain changes proposed in the recommendations considered, the Committee will recommend that copies of the revised recommendations be circulated in draft to all the bodies for their consideration and observation, when it will be the function of the Education Committee to consider any changes in their resolutions.

THIS YEAR'S ENTRY

"Particulars of this year's entries received from nearly all the Deans show an increase of over 200 on last year's figures. In 1931 the number of students registered was 1643, a drop of 149 from the previous year. The number registered up to date this year is 1590. In considering any alteration in their resolutions, the Education Committee will no doubt take these figures into consideration, and will bear in mind that it is less easy to stiffen resolutions when the number of entrants is going down.

PRE-REGISTRATION EXAMINATIONS

"A suggestion by my predecessor that the bodies other than universities which conferred licences admitting to the Register might consider the conditions under which graduates, licentiates, and students from other countries are admitted to their examinations, bore fruit, and in February of this year a conference was held in the Royal College of Physicians in London at which were present representatives of the three Conjoint Boards, the Society of Apothecaries, and the Apothecaries' Hall. As a result of this conference all the bodies have reconsidered, and in most cases redrawn their regulations. These are in closer accord than they have been in the past, and it is now a pretty general requirement that anyone who seeks admission to the British Register must pursue part of his studies in the United Kingdom, which words so far as medicine is concerned have the same signification to-day as they had in 1858, and no one is admitted to any examination whose standard of general education falls below that required of our own students. At our last session Prof. Rice's report on his visitation of pre-registration examinations was received, and directed to be communicated to the licensing bodies, more than half of whom have reported. Ample time will be provided for discussion at the May, 1933, session."

THE CEYLON MEDICAL COLLEGES

Colonel Needham's report on the educational training and professional examinations of Ceylon medical colleges had been forwarded to the Secretary of State for the Colonies and to the Governor of Ceylon, and, said the President, some of the recommendations in the report had already been given effect to. Dr. Briercliffe, Director of Medical and Sanitary Services, Ceylon, was given leave to proceed to this country and he and Dr. Silladuri, of the Physiological Department of the Ceylon College, were by the courtesy of the Deans given every facility for observing the methods in operation in several of the schools in this country. Sir Richard Needham's suggestions for improving the educational facilities of the College are now under the consideration of the Ceylon Government, and the Council will await with interest the report of progress which it is hoped will be in our hands by March 31st, 1933.

DENTAL EDUCATION.

The Dentists Acts (1878 and 1921) do not make provision for the appointment of inspectors of qualifying examinations such as is contained in the Medical Act, 1886. But Section 22 of the 1878 Act, the President pointed out, provides that the Council "may require from the bodies which confer licences, information as to the course of study and examinations to be gone through . . . and any member or members of the General Council, or any person or persons deputed for this purpose, may attend and be present at any such examination." Under this provision the Council deputed Mr. Farquhar Macrae and Mr. C. F. Rilot to attend and report on the general and dental examinations respectively. The Council, said the President, was greatly indebted to them for the work, and following the receipt of their reports the Dental Education and Examination Committee of the Council had been busily occupied in a scrutiny of the present recommendations as to the course of study and examinations to be required of candidates for the licences in dentistry and dental surgery, last revised in 1922.

At the opening of the session the following new members were introduced: Prof. J. M. Beattie, as representative of the University of Liverpool, from July 19th, 1932, till Sept. 30th, 1934, introduced by Prof. J. S. B. Stopford; Prof. W. Langdon Brown, as representative of the University of Cambridge, for five years from Oct. 21st, 1932, introduced by Sir Farquhar Buzzard; Sir John Marnoch, introduced by Mr. Alexander Miles.

The President having delivered his address a vote of thanks was proposed by Sir Henry Dale and seconded by Sir Robert Bolam

The Council then passed to the consideration of penal cases.

EDUCATION IN MEDICINE

THE MAUDSLEY LECTURE

Sir FARQUHAR BUZZARD delivered the Maudsley lecture to the Royal Medico-Psychological Association on Nov. 22nd. He said that his choice of subject had been determined by the conviction, which must be generally shared, that the practice of medicine was much handicapped by a want of understanding, and therefore of sympathy and coöperation, on the part of the public, the causes of which might be explored with advantage.

The difficult problem of educating the layman in matters of health and disease could not be tackled with success unless the nature and extent of the average layman's ignorance of the science and art of medicine were first assessed, and the factors on which it depended ascertained. He used the term "layman" to describe the man or woman with little or no scientific education, and "ignorance" in its strict sense without offensive or critical implications.

THE LAYMAN'S ATTITUDE

With these definitions in mind the layman's ignorance of medicine could only be described as profound, in regard not only to practice, and the principles on which practice is based, but to the nature and extent of the training required of qualified practitioners. This profound ignorance would perhaps be of little moment if it were as readily admitted as was ignorance of other branches of special knowledge, such as the law, engineering, or architecture. But profound ignorance of medicine was almost universally associated with an equally profound belief that what the layman may lack of knowledge is more than compensated for by the attribute of "common sense." There could be few laymen who did not feel entitled to pronounce a confident opinion on the cause, the diagnosis, or the treatment of any ailment, and who did not regard a single experience of a disease, whether at first or second hand, sufficient to justify generalisations such as no wise doctor would venture upon after years devoted to its study. The layman's curiosity was easily satisfied by a name. For example, the announcement "I have got blood pressure" was made on every side with such satisfaction and finality that one was apt to forget that without such a necessary physiological concomitant of life the speaker would not be in a position to supply the information. The patient and his friends found a label, however meaningless, sufficient for their intellectual needs, while to the doctor a label did no more than give rise to a score of pathological questions, not one of which could be put in language intelligible to his patient. One doctor, in order to supply the demand for a label, would tell a patient that he is suffering from rheumatism, the next that he has fibrositis, and a third that he is the victim of neuritis. The patient could hardly be blamed for convicting the first two of wrong treatment as well as of wrong diagnosis, if he happened to recover while undergoing treatment at the hands of the third! It was a farcical position, yet impossible to alter so long as the lay mind clung to the mediaeval idea that there were so many distinct morbid entities each of which had its appropriate cure if the doctor was clever enough to recognise the former by name and prescribe the latter correctly.

The unfortunate layman could glean little from the press, for hardly a day passed without his having the opportunity of reading in a newspaper the views of a journalist as ignorant as himself on some medical topic expressed with that sublime assurance which was so easily accepted as the proxy of knowledge. On one page the "consultant" might be brought forward as the highest authority; on the next he might be exposed to judicial ridicule. Further perusal of a paper might reveal the story of a coroner's inquest at which the jury returned a verdict of "cause of death" in direct opposition to the medical evidence, or perhaps an account of police-court proceedings in which the defence of a youth, aged 17, summoned for an assault, was based on the plea that he was born during an air raid!

The ignorance of the qualified, compared to the enlightened wisdom of the unqualified, practitioner was a theme which never failed to stimulate a lively newspaper correspondence or drawing-room discussion. Often one was faced with the question: "But how do you account for A's successes?" (A being the unqualified practitioner most in fashion at the moment.) It was impossible to emphasise too strongly the fact, so well known to the profession, that the majority of human ailments disappear in response to Nature's recuperative efforts, often reinforced by a sublime faith in any form of treatment. Sir Farquhar told a story of an athlete with a loose cartilage which illustrated well the unreliability of the layman's evidence in regard to what the doctor says, and the still greater unreliability of a reported cure. Every medical man was frequently informed of opinions, purporting to originate from himself, which were mere travesties of what he had really said.

THE PROGRESS OF MEDICINE

From the time of Harvey to the present day the practice of medicine had steadily progressed in efficiency, partly by reason of accumulated observations and experience, in some periods rich, in others meagre, and partly owing to the rapid development of the ancillary sciences which had come to its aid, particularly in the last 100 years. It would be many years before it reached the status of an exact science itself, but every decade saw a substantial increment in its scientific equipment and outlook. To that progress in efficiency the chameleonic records of quackery had made no lasting contribution of any kind. The profession of medicine owed nothing to quackery in the past, had nothing to expect or fear from it in the future, and least of all had any cause or desire to regard it with jealousy. These facts, vouched for by history, should not be overlooked in view of the prevalent idea and suggestion that our indifference to unqualified practice was incited by professional envy. The layman, did he but realise it, should be thankful that the General Medical Council was established by Act of Parliament in 1858 in order that (to quote the preamble) "persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners." Quackery flourished in direct proportion to the credulity of the layman, and the layman's credulity varied necessarily not only with his ignorance of science but with his lack of an educated critical faculty. Unfortunately quackery had a professional counterpart which added materially to the confusion of the public mind. Sour milk, hormones, innumerable forms of electricity and rays, vaccines and various foreign nostrums, to say nothing of liver, had one and all been exploited with so little discrimination that the public must be forgiven if it failed to distinguish between the methods adopted by qualified and unqualified practitioners. Without diagnosis, discretion, or dignity doctors had prescribed each of these in its turn for every intractable ailment, with the result that our wisdom and our honesty as well as the genuine merits of the curative agent had eventually become discredited. Some registered practitioners, moreover, were not above adding certain magical devices and artifices to their diagnostic and therapeutic armaments.

THE REMEDY

In order to obtain a true perspective of the gap which separated the layman's ignorance from the doctor's knowledge of the factors underlying health and disease, it was necessary to remember that the doctor's education, with its strong scientific bias, tended to develop processes of thought, lines of reasoning, and mental values which were entirely unfamiliar and often incomprehensible to those who had been brought up in other schools.

The remedy for this unsatisfactory position which was now attracting public attention and receiving some measure of general approbation was based on the assumption that a layman's ignorance could be "cured," so to speak, by a course or courses of lectures purporting to put the problems of medicine into popular language. But the medical student was held unfitted to tackle the problems presented by diseased tissues and perverted function until he had become thoroughly acquainted with healthy tissues and normal function. Was it wise or safe to skip over those years of training and to bring the layman, totally unprepared, face to face with the spectre of disease through the agency of lectures, of the press, or of the wireless? Sir Farquhar was not referring to enlightenment on the broad principles of hygiene and preventive medicine, on the elements of heredity or eugenics, but to lectures on cancer, on maternal mortality, or the dangers of middle age. Superficial smatterings of medical learning were already a powerful and prevalent factor in promoting mental ill-health throughout the community. Phobias in relation to cancer and syphilis were already responsible for too many unhappy and useless lives. It was necessary to be careful lest we bring up a generation to map out a régime of daily life in terms of exercise and sunlight, and to replace its natural appetite by a craving for calories and vitamins. Perhaps, for selfish reasons, the profession would be sorry to see the health-addict entirely disappear from our midst, but it was sufficiently human and patriotic to regard the prospect of widespread health-consciousness with genuine alarm. Was it too outrageous to submit that, if general education were reorganised in such a way that every student acquired some elementary acquaintance with scientific methods of research, with scientific lines of thought, and with scientific history, even at the expense of other more time-honoured subjects, many difficult problems, in addition to that which we are considering, would be brought nearer to solution? The chief argument for the inclusion of biology in the general curriculum was usually based on the plea that everyone should learn something about the nature and facts of life before taking on its responsibilities, but this argument was no stronger, in Sir Farquhar's opinion, than that afforded by its potential value for the kind of training which the lay mind at present lacks.

He submitted, as the outcome of this investigation of the factors underlying the spirit of unrest and misunderstanding which pervaded both parties concerned in the practice of medicine, the following propositions:—

1. That lay ignorance, inevitable with general education as it is to-day, is chiefly responsible for our trouble, although regrettable tendencies in the profession itself must be counted as contributory causes.

2. That there is much danger and little profit to be expected from the attempt to give the layman, with no scientific background such as would enable him to appreciate the aims and difficulties of practice, a superficial smattering of medical knowledge.

3. That the only prospect of improved conditions in the relationship of doctor with patient, as in many other problems, political, social, and economic, depends on including in the purpose of general education some insight into the elementary principles of scientific methods, the spirit of scientific inquiry, and the history of scientific achievements.

ROYAL SOCIETY OF MEDICINE

ANNUAL DINNER

THE annual dinner of this society was held at the May Fair Hotel on Nov. 17th, the chair being taken by the President, Mr. WARREN LOW.

After the loyal toasts had been honoured, the health of "The Royal Society of Medicine" was proposed by the Minister of Health, Sir E. HILTON YOUNG, who said it was an extremely embarrassing matter for one who ordinarily occupied the status of a patient to face the eagle eyes of the medical profession. Did he but cough a whisper went round the tables: "Tussis. The end is near." He braced himself for the task, however, by reminding himself that he had associated for five years with the Rhadamanthi of the profession on the General

Medical Council. If he did not know much about the brighter side of the profession there was little he did not know about its seamy side. He expressed his pleasure at being present on the occasion when the highest traditions of the medical profession were to be recognised in the person of Sir Thomas Barlow, who represented a vintage period of medicine. His attention had been drawn to the motto on the medal: "Finis coronat opus." In connexion with research this might be apposite, but in the realm of therapeutics might it not be interpreted by their ribald children as: "It's all over with the patient whatever you do"?

With the three objects of the society he found, Sir Hilton continued, a varying degree of sympathy. He had an appeasable appetite for "conversation on professional subjects," particularly the conversation of medical men, and nobody would expect a Minister to feel enthusiastic about "the reception of communications." He did, however, feel a passionate sympathy with the third object: the formation of a library, to which a Minister might retire for contemplation. The task which had been set the society was great. Its efforts in the cause of humanity were central. The formation of the pool of ideas was most valuable, for ideas were only valuable in proportion to the extent to which they were pooled. The society also stimulated professional men to brace themselves to the task of the review of accepted ideas. Much failure was due to the contented acceptance of things as they were without relation to recent developments. The only mind worth following was the most advanced mind. An aspect of this was the coördination of the research efforts of the present time. The failure to bring into relation simultaneous efforts to advance the bounds of knowledge led to frequent grave wastage of brain stuff—the worst of all wastages.

He emphasised the importance of the continuous education of even the experienced practitioner. The British Post-graduate Medical School which, despite financial exigencies, had not suffered miscarriage, had a future of bright hope for the profession. The practitioners were the "shock troops" for the maintenance of the front against disease. He was profoundly recognisant of the work done by the society in that campaign, in which he liked to think that the Ministry of Health had its share.

The PRESIDENT thanked the Minister for his appreciation of the work of the society—and for his flattering assumption of a knowledge of Latin among his audience. The medical and political professions had certain resemblances; both were continuously presented with problems of great complexity and difficulty. Both were optimistic enough to believe that some day their worst plagues—unemployment and cancer respectively—would come under control. Both suffered from colleagues who were a little too optimistic. In one matter, however, the politician and the doctor differed: the budding politician did not seem to possess a curriculum. The medical curriculum resembled only faintly the career (which he set out in a few graphic touches) by which Sir Hilton Young had trained himself to become a Minister of Health. The General Medical Council had set up a committee to apply the popular process of slimming to the curriculum. He hoped, however, that there would be no undue interference with the preliminary subjects. The study of the exact should precede that of the inexact sciences.

The society, he said, now had nearly 5000 members, over 300 new Fellows and associates having joined during the last session. There were 24 sections, each being autonomous in its academic affairs, but being freed from financial and administrative difficulties by the officers of the society as a whole. To avoid watertight compartments, joint discussions were held. The library was the largest medical library in the Empire, and its work reflected the greatest credit on the librarian and his staff. Over £3900 per annum was spent on books, periodicals, and bindings alone, although the library had no endowment.

The President then presented the gold medal of the society to Sir THOMAS BARLOW, expressing his delight that the recipient should be an old friend and teacher.

Dr. H. LETHEBY TIDY proposed "The Guests," addressing a few words of welcome to each, including the presidents of the three great medical colleges, the president of the Royal Academy (Sir William Llewellyn), the presidents of many kindred societies, and the medical press.

Sir WILLIAM ROTHENSTEIN, replying, reflected that 500 years ago his profession had been the precise thinkers, and the doctors had been the charlatans and humbugs—now it was the painter who had the stuffed crocodile at his door. The painter and the doctor both had to pretend to be infallible; both, he thought, would be wise to take their clients a little more into their confidence.

SOCIETY OF MEDICAL OFFICERS OF HEALTH

ANNUAL DINNER

THE President, Dr. G. H. PEARCE (M.O.H. for Batley and Heckmondwike), took the chair at the annual dinner of this society, held at the Hotel Victoria, London, on Nov. 17th. After the toast of H.M. the King had been honoured, Mr. Geoffrey Shakespeare, Parliamentary Secretary to the Ministry of Health, proposed "The Public Health." The history of the public health movement in this country divided itself, he said, into three epochs: those of the half-time pioneers, the whole-time men who had laid the foundations of preventive medicine, and the new period of development opened up by the Local Government Act, 1929, under which local authorities had the whole charge of the sick population. He foretold another era in which the medical officers of health would fight a concerted battle against the nervous disorder which was becoming so distressingly frequent as a result of the complication and anxiety of modern life.

Prof. W. W. JAMESON, in reply, said that the public had benefited in direct proportion as the machine of public health had been perfected. All countries had followed the lead of our own, and the public health work of the League of Nations was considered by some to be the most admirable part of its activities. The endowment of the Prudential chair of public health in the University of London had been an acknowledgment by a great insurance company that the work was of practical benefit. Changes were necessary in the education not only of doctors but also of teachers, in order to give the public the right attitude towards health.

Lord BALFOUR of BURLEIGH, in proposing the toast of "The Society," pointed out the close relationship and common objects of the society and the Royal Sanitary Institute, of which he was president. He paid a warm tribute to the late Prof. Bostock Hill, who had spent his life in the service of both societies. It was, he said, most important for medical officers to have behind them a society like this in their struggle to induce local authorities to take the steps they advocated and to secure adequate remuneration.

The President, in reply, pointed out the advances that had been made in the last half century, especially in the control of epidemics and the reduction of the death-rates; he urged members to do all in their power to abolish the popular demand for a bottle of medicine, and to teach the public to eat and to do the right things to live a healthy life.

Dr. R. VEITCH CLARK (M.O.H. for Manchester) proposed the health of the guests, and Dr. Alfred COX, in reply, said that when he had first taken office with the British Medical Association there had been chronic warfare between the medical officer of health and the general practitioner. That state of affairs was now confined to a very few areas. No body of citizens had more power in its hands than

the Society of Medical Officers of Health, and none exercised it less ostentatiously and with more tact and ability. A private practitioner gave orders to his patients; a medical officer of health, in dealing with his council, had to persuade them. It was the custom for young people to deride the Victorian days in which their grandparents had known how to live comfortably and to appreciate domestic life, and to say that nowadays they had not time to think. If we were coming to that stage, it was time we returned to an outlook which did not miss the beauty and content to be found in the quiet contemplative life. In conclusion, Dr. Cox said that if he had to start his career again he would like to be a medical officer of health—if he could not be a family doctor, or the secretary of the B.M.A.

Mr. W. D. Wills, Member of Parliament for Batley and Morley, Miss G. E. Taylor, Mayor of Batley, and Mr. T. W. Crowther, chairman of the Heckmondwike Urban District Council, also replied for the guests.

BRITISH HEALTH RESORTS ASSOCIATION

AT the inaugural luncheon of the British Health Resorts Association, held at the Ritz Hotel on Nov. 22nd, Lord MESTON, who took the chair, read a telegram of encouragement from the Duke of Connaught. It was customary, Lord Meston said, for English people to go abroad for spa treatment, but English spas were as good as those on the continent. The task of the Association was to convince medical opinion of this fact, but this implied no hostility to foreign watering-places or travel associations, nor was there any commercial factor involved. The Association had been particularly fortunate in securing as secretary Dr. Alfred Cox, the retired medical secretary of the British Medical Association.

Sir HILTON YOUNG, Minister of Health, who proposed the health of the Association, said there were two measures by which the advancement of the British health resorts could be achieved—first, by publicity, and secondly, by stimulating the interest of the medical profession, local authorities, and hotel-keepers in this neglected national asset. The Travel Association was responsible for advertising our health resorts abroad, and this left ample scope to the Association to advertise them at home. Its task was to convince the public that what they required was available in this country. The more our own resorts were used the cheaper they would be able to make their services. The municipalities had a business to develop through the wise investment of capital and the development of their assets.

Sir THOMAS HORDER read a telegram from the Prime Minister wishing the Association success. Some patients, said Sir Thomas, experienced a psychological fillip through the mere fact of going abroad for treatment, but many sensible people wished to know what could be provided for them in Great Britain. The Association would help to coördinate all the interests involved in improving our health resorts.

Lieut.-Colonel R. H. ELLIOT said that the aim of the Association was to organise our health resorts, to examine and codify their claims, and to make the information available to the public. We had exceptional facilities for treating a wide range of invalids, most of whom were now going abroad for treatment.

Lord DE LA WARR, Mayor of Bexhill, said that the boroughs and county boroughs appreciated the aims of the Association. They felt it would be their task to give the medical profession the best possible service for their patients, and to provide modern hotels and amenities.

Dr. FORTESCUE FOX said that the spas and coast provided for ailing and tired men and women a periodical renewal of health which could not be obtained elsewhere, and for children the possibility of frustrating the tendencies of disease. If the observations and studies of serious men working at the same problems in many countries could be brought together, the work of all the health resorts would in time be established on foundations of exact knowledge. In this country the aim must be to develop, extend, and apply scientific data and methods at these "centres of convalescence," and he hoped that in the prosecution of this aim the health resorts would enjoy—as their rivals in other countries enjoyed—the great advantage of the encouragement and recognition of the State.

PANEL AND CONTRACT PRACTICE

Married Women

Sir Thomas Neill, in his presidential address to the National Conference of Industrial Assurance Approved Societies, made reference again to the question of married women's insurance. The Act passed last May had, he said, removed some of the principal weaknesses of the scheme, but he regretted the rejection of the approved society amendment which provided that in order to enable the genuinely employed woman to requalify for the normal benefits of an insured married woman she would have to make not less than 26 weekly contributions during the 52 weeks following marriage. It will be remembered that while many girls on marriage cease employment (and become in technical language class K), they are still entitled to medical and sickness benefit; it is found that as a class they are fully determined to draw all they can until the right to these benefits lapses. Approved societies intended, Sir Thomas said, to persevere with their efforts to get the amendment incorporated in the scheme. Mr. Ernest Brown (Minister of Mines and late Parliamentary Secretary to the Ministry of Health) said they had in the last Act reduced some of the benefits of married women although they had not gone as far as the approved societies wished. The difficulty was to do something which would affect all married women, when many of them were quite genuinely insured persons working regularly. Mr. R. J. Mellor, K.C., said that 20,000 women entering matrimony each year found a way of getting some occupation which gave them the right to continue as insured workers and to take the benefits they ought not to take. That was a hardship upon the vast body of women who were losing the prospect of additional benefits through the absorption of reserves. If married women had to enter insurance de novo on marriage that would be a test of whether they were genuine workers or not. Readers of this column will remember the relatively new form of report to be given by the regional medical staff on the question whether the woman who is not fit for her ordinary occupation may not be fit to perform household work. It may be quite easy to say that this is so; for example, a woman in the eighth month of pregnancy might not be thought fit to do work involving heavy lifting, as in some factories, while quite capable of doing her own housework at her own pace and in her own time. She could not truthfully be called incapable of work.

Consultant Service

Dr. G. C. Anderson (Medical Secretary, B.M.A.) said that the institution of consultative and specialist services would be of such benefit to the community and at so small a cost, that it should be pressed forward

forthwith. This is true, but thought will be needed in the institution of these services, in order not to undermine the confidence that the public has (or should have) in their own doctors. The first care of the State should be to encourage every citizen to choose a doctor whom they trust to be responsible for treatment and advice as to treatment. In the old days this was not possible owing to expense, but in these days of insurance and public medical services (to say nothing of public assistance) there is no such excuse. The responsibility thrown on the doctor by such a system would improve his work; at the present time he knows that an insured person must come to him for treatment unless he wishes to pay someone else (and that is paying twice over) to attend him. The insurance doctor feels this responsibility and does his best for the patient, but no doctor has much respect for a patient who comes to him one week and goes to another doctor next week. He feels they are not worth troubling with and they drift to hospital where they clog the wheels of the out-patient department. Rightly used this is a department to which no patient should come except on the introduction of a doctor, and at which he should not be allowed to remain unless needing treatment which that doctor is unable to give at home. In this sort of way insured patients would obtain correct consultant and specialist services, and would avoid consultants and specialists who are just general practitioners camouflaged. The consultant service should, of course, be subject to the supervision of the medical service subcommittee in the same way as the work of the general practitioner service.

Charcoal Biscuits

The panel committee for Birmingham has decided that the cost of charcoal buscuits is not a proper charge on the drug fund. The question of surcharge had been raised by the insurance committee on the prescription of a Birmingham doctor who appealed to the panel committee. The hearing took place on Sept. 20th and was adjourned until Oct. 11th to enable the practitioner to consider a statement received by the panel committee from the Ministry of Health. The result of the decision will be a deduction from the practitioner's remuneration.

"B.P."

The Minister of Health has decided that in order to meet the convenience of insurance practitioners and chemists the date from which the abbreviation "B.P." appearing after the title of any drug included in Part 3 of the drug tariff shall (in the absence of any indication on the prescription of a contrary intention on the part of the prescriber) denote the standard or formula of the British Pharmacopœia, 1932, instead of the standard or formulæ of the B.P., 1914, shall be March 1st, 1933.

OBITUARY

HAROLD KERR, O.B.E., M.D. Edin., D.P.H. Camb.

Dr. Harold Kerr whose death occurred at Fenham on Nov. 10th, at the end of a long illness, was in the line of first-rate public health administrators and teachers. Born in London in 1880, Harold Kerr came of Highland ancestry and often revisited the island of Arran where his forbears lived. He attended Queen Elizabeth's Grammar School at Barnet, going on to Edinburgh University where he graduated in 1902, taking the M.D. with commendation in 1907 and the Cambridge D.P.H. a little earlier. After qualifying he had a varied experience. He was first an assistant to a general practitioner, then house surgeon at Rotherham hospital, resident at the Bury and District joint infectious hospitals with a position on the health staff of Bury, and ship's doctor on the s.s. *Orestes*. In 1907 he went to Newcastle-on-Tyne as deputy to Dr. H. E. Armstrong, succeeding him in 1912 as medical officer of health, and in 1920 he was appointed to the chair of public health in the University of Durham, becoming later a member of the Academic Board and of the research and post-graduate instruction committees.

PROF. HAROLD KERR

[*Photograph by James Bacon*

For a year or two he was medical officer to the Newcastle Insurance Committee; he was hon. secretary of the Northern Branch of the Society of M.O.H.'s, and in 1930 was elected president of the society in succession to Dr. J. J. Buchan, although his election unhappily coincided with his breakdown in health. He collaborated with Prof. H. R. Kenwood in the production of the latest edition of Parkes's "Hygiene and Public Health," and the manysidedness of his interests is evident in the variety of articles which appeared over his name in the medical and public health journals. But Kerr's life-story is told not so much in these as in his reports to the public health committee and in his acknowledged success as an administrator in a county borough in which the public health interests were varied and conflicting to a very high degree. His powers of administration amounted to genius and made it possible for him to anticipate at Newcastle the call for economy by doing away with non-essentials. He presented one of the first schemes of unified hospital service, and when we published in these columns a series of articles by representative public health experts on economy in the social services, Kerr was able to write quite simply and truthfully—"Many of the suggestions put forward by your previous correspondents seemed to me of the type that any capable administrator is bound to have under his consideration all the time, and the thoroughness of their observation is really the measure of his capability." Along with this canniness and candour went a real kindliness and happiness of spirit which endeared Harold Kerr to a wide circle of friends within and without his own profession, and during the last few days testimony has been borne from many sides to his personal popularity. He leaves a widow and four daughters.

THE Birmingham Hospital Saturday Fund has presented an ambulance to the Hospitals' Contributory Association, which now possess seven of these vehicles.

PARLIAMENTARY INTELLIGENCE

NOTES ON CURRENT TOPICS

Prorogation

PARLIAMENT was prorogued by Royal Commission on Thursday, Nov. 17th. In the House of Lords on the previous day (Nov. 16th) on the motion of Viscount GAGE the rules under the Mental Treatment Act for the Lancashire, Staffordshire, and West Riding Mental Hospital Boards were agreed to.

New Session: King's Speech

The new session of Parliament was opened by the King in person on Tuesday, Nov. 22nd. In the course of his gracious speech from the Throne His Majesty said that it was his earnest hope that the World Economic Conference, to be held in London as soon as possible next year, would be able to reach agreement on the measures required to deal with the causes which had brought about the present economic and financial difficulties of the world. His Majesty's Government would continue, in full coöperation with all the other members of the Conference for the Reduction and Limitation of Armaments now sitting at Geneva, to work for an international convention which would be a foundation for a lasting peace.

After the Indian Conference His Majesty's Government hoped to place before Parliament proposals for further constitutional development in India.

Although the various conversion schemes which had been successfully carried through offered the prospect of large reductions in the service of the national debt, it was still necessary to exercise careful supervision over public expenditure, both national and local. The measures already taken to assist British industry in the home market and to improve our overseas markets had created a feeling of greater confidence. His Majesty's Government would continue to do everything in their power to stimulate the recovery of trade. It was recognised that further plans were necessary to enable British agriculture as a whole to take its proper place in the economy of the nation. Large numbers of people were still unable to find employment, and the persistence of the situation caused His Majesty the greatest anxiety. In particular he was distressed that many young men and women had never in their lives had an opportunity of regular employment. In the view of His Majesty's Government any provision for unemployed persons should not only afford material assistance, but should also be designed to maintain their morale and their fitness to resume work when opportunities could be found. Measures would be brought forward dealing comprehensively with unemployment insurance and with the treatment of those unable to obtain work, and the considerations already mentioned would be borne in mind in framing the Government's proposals.

Bills relating to Scotland would be introduced to amend the procedure governing private legislation, to facilitate the administration of civil justice, and for other purposes. Measures dealing with rent restriction, London passenger transport, and other matters of importance would be introduced and proceeded with as time and opportunity offered.

HOUSE OF COMMONS

WEDNESDAY, NOV. 16TH

Mental Treatment Act, 1930

Mr. ATKINSON asked the Minister of Health how many voluntary patients had been received under Section 1 (1) of the Mental Treatment Act, 1930; how many of them had been permitted to leave; and how many of them had been turned into compulsory patients under Section 3 (2) or otherwise.—Sir E. HILTON YOUNG replied: The Mental Treatment Act came into operation on Jan. 1st, 1931, and the latest figures available are for the year ending Dec. 31st, 1931. During that year 3984 persons were received as voluntary patients and 2420 left: 55 became temporary patients and 205 were certified. The number of patients in respect of whom action was taken under Section 3 (2) of the Act is negligible, but a precise figure cannot be given without an examination of a large number of documents which cannot be undertaken at the present time.

Chemical Warfare Research

Mr. THOMAS WILLIAMS asked the Financial Secretary to the War Office what were the amounts spent on chemical warfare research in the following countries: France, Germany, Italy, Russia, United States of America, and Japan for 1931–32, or for the latest year for which figures were available.—Mr. DUFF COOPER replied: No figures for the amounts spent on chemical warfare research are published in respect of any of the countries named with the exception of the United States of America, where appropriation under this head for the year ending June 30th, 1932, was given in their estimates as $323,050.

THURSDAY, NOV. 17TH

Insane Prisoners and Broadmoor

Mr. JOEL asked the Home Secretary how many persons now incarcerated in Broadmoor had never been convicted by a jury of any offence but had been sent to this place of detention on purely medical grounds.—Mr. OLIVER STANLEY replied: 312 persons at present in Broadmoor were found by juries to be insane upon arraignment and therefore were not put upon their trial; 39 other persons were certified insane while awaiting trial or upon remand and were removed to Broadmoor.

Alleged Atmospheric Pollution

Lieut.-Colonel APPLIN asked the Minister of Health what steps, if any, had been taken to redress the grievance of the residents of Eastern Enfield who had petitioned against the nuisance caused by grit and filth ejected by the power station of the North Metropolitan Electric Supply Company at Brimsdon; and whether he was aware of the damage done to property and health by this nuisance.—Mr. SHAKESPEARE (Parliamentary Secretary to the Ministry of Health) replied: My right hon. friend is informed that the company do not admit that there is a nuisance, but have installed plant to reduce any possible cause of complaint and that still further improvements are being made.

Town Planning Schemes

Mr. PALMER asked the Minister of Health which, if any town planning authorities had included clauses in their schemes regulating the use of tents and caravans; whether any such schemes had been approved by the Minister; and what general policy he was adopting in this connexion.—Mr. SHAKESPEARE replied: Clauses regulating the erection and use of tents and caravans have been included in three schemes submitted to my right hon. friend, two prepared by the Cardiff Rural District Council and one by the Rayleigh Urban District Council. My right hon. friend has announced his intention to approve in two of these cases: the other is being considered. He is prepared to consider the inclusion of such clauses in other schemes submitted to him.

DERBYSHIRE ROYAL INFIRMARY.—The annual report states that the average cost of each occupied bed was £122 15*s.* 11*d.*, and of each in-patient £5 15*s.* 11½*d.*, a reduction in each case. Out-patients cost 9*s.* 6½*d.* each. There were 6566 in-patients, and 14,303 out-patients, the latter an increase of about 850.

A STOKE-ON-TRENT ENLARGEMENT.—Last week Lord and Lady Dawson opened extensions of London-road Public Assistance Institution, at Stoke-on-Trent. The enlargements consist of a nurses' home, with accommodation for 176 persons, which has cost over £54,000, and a hospital pavilion of 162 beds, which has cost almost £37,000, excluding equipment. Provision has been made for further extensions, the scheme providing ultimately for a total of 819 beds. Adding the amount expended upon "lay-out" works, such as roads and a water-tower, the entire cost has reached £122,000. Many of the nurses have hitherto been inadequately and inconveniently housed, but now each has a separate bedroom with a built-in wardrobe and lavatory basin with hot and cold running water, and a clear floor space of 100 ft. super. There are recreation, writing, and shampoo rooms, and a dining room seating 180, with a polished maple floor suitable for dancing. The pavilion has balconies on each floor and a solarium at the southern end.

MEDICAL NEWS

University of Oxford

It has been decided that the six official members of the board of the faculty of medicine shall be Dr. Lee's professor of human anatomy, the Waynflete professor of physiology, the professor of pathology, the professor of pharmacology, the Whitley professor of biochemistry, and the Margaret Ogilvie's reader in ophthalmology.

Radcliffe Travelling Fellowship.—An examination for this Fellowship, which has an annual value of £300 and is tenable for two years, will begin on Feb. 14th, 1933.

There will be papers in physiology, pathology, and preventive medicine, together with a practical examination in pathology; an essay subject will also be proposed. Candidates may, in addition, offer a special branch of medicine or surgery, but notice of this should be given when application is made. They must have passed the examinations required for the B.M. degree not more than four years' previously, and they should send their names, addresses, and qualifications to the Regius professor of medicine, University Museum, Oxford, not later than Feb. 1st. It is a condition of the Fellowship that the holder shall spend at least nine months outside the United Kingdom.

University of Cambridge

On Nov. 18th the following degrees were conferred:—

M.D.—R. F. Guymer and J. W. E. Cory.

University of Leeds

The title of emeritus professor has been conferred on Dr. F. W. Eurich, who recently retired from the chair of forensic medicine in the university.

National Birth Control Association

Sir Thomas Horder will be in the chair at the second annual meeting of this association, which will be held at the Caxton Hall, Westminster, at 4.30 P.M. on Tuesday, Nov. 29th. At 5 P.M. Lady Limerick will speak on Some Social Aspects of Birth Control. Other speakers will include Lady Denman and Sir Allan Powell. Invitation cards may be had from the secretary at 26, Eccleston-street, London, S.W.1.

Royal Northern Group of Hospitals

A post-graduate course has been arranged for the winter at this hospital, and a lecture will be given there every Tuesday at 3.15 P.M., from Nov. 29th to Jan. 31st (excluding Dec. 27th). From Feb. 6th to 10th there will be an intensive course with two lectures every afternoon, and from March 1st to 15th lectures will be given on Wednesdays at the Royal Chest Hospital, City-road. The course is free to all practitioners, and further particulars may be had from the dean, Dr. E. G. B. Calvert, Royal Northern Hospital, London, N.7.

Royal College of Surgeons of England

The annual meeting of Fellows and members of the College was held at the College on Nov. 17th, with Sir Holburt Waring, the president, in the chair. There was not a quorum. Dr. Richard Gillbard moved a resolution that members, who constituted, he said, nine-tenths of the College, should be admitted to direct representation on the council. Their exclusion was perhaps due to a fear that members would draw the College into the medico-political arena, but no one present wanted that to happen. The constitution of the General Medical Council served as precedent, and he suggested that four members should be elected to the present council, and that a joint committee should be set up composed of members and Fellows. Dr. H. H. Sanguinetti, in seconding, said that it was because he wanted the College to rise to even greater heights that he advocated a change, long due as a matter of justice. No one could be thoroughly satisfied with the present state of medical affairs. The public clamoured for the State recognition of unqualified practitioners, and "turning to defend ourselves from these onslaughts we frequently find ourselves inadequately equipped for the task, and, alas, sometimes have to admit that the unqualified are doing work which we should have been taught to do." Again there was much unnecessary overlapping of consultants and general practitioners, mainly because the whole of medical education was designed to produce competent consultants, leaving the ranks of the general practitioners to be filled for the most part by men who were not deemed to have reached the consultant standard. General practice, in his opinion, demanded special training—a training at a certain stage differing entirely from that suited to the consultant. For the reorganisation of the profession the presence of general practitioners on the council was essential. With such representatives the council would find itself "plus a little something" which it required in breasting the hill of medical progress.

The president promised that at the next meeting of the council he would report what had been said.

Bosworth Hall as Public Assistance Institution

This house at Market Bosworth, in Leicestershire, for three centuries the seat of the Dixie family, has been purchased by the Leicestershire county council as a home for the chronic sick and aged. It will be substituted for some of the existing institutions.

Charterhouse Rheumatism Clinic

The staff of the clinic have organised a branch at 94, Hallam-street, Portland-place, for the treatment of paying patients of small means, and this will be open to patients early in December. Inquiries should be addressed to the secretary, and the preliminary announcement states that the collaboration of the doctor already attending is important.

Guy's Hospital

Since the war Guy's Hospital has had an annual deficiency of £10,000, which, with the building debt of £91,000, brings the total debt to £193,000. The hospital is therefore anxious to avail itself of an offer made by Mr. Thomas Arno, of Eastbourne, to give £5000, subject to the condition that another £50,000 is collected. Mr. Arno has given £1000 to start the fund, and has promised another £1000 for every £10,000 collected.

Institute for the Scientific Treatment of Delinquency

A public inaugural meeting of this institute will be held at University College, Gower-street, London, W.C., on Tuesday, Nov. 29th, at 8.30 P.M., with Dr. Edward Glover in the chair. Addresses will be given by Lord Feversham, Miss Winifred Cullis (professor of physiology in the University of London), Dr. J. A. Hadfield (lecturer in psychopathology and mental hygiene in the university), Dr. W. Moodie (director of the London Child Guidance Clinic), and Dr. J. R. Rees (deputy director of the Institute of Medical Psychology). A discussion will follow. Communications should be addressed to the hon. secretary at 56, Grosvenor-street, W.

An East African Medical Congress

The East African branches of the British Medical Association met at Nairobi from Oct. 5th to 8th, to celebrate the association's centenary. Sir Joseph Byrne, Governor of Kenya, congratulated the association on bringing together official and unofficial representatives of the profession in the Colonies, and remarked that it had been found impossible to arrange a meeting of even the medical officers of the various territories since 1920. After paying warm tribute to the advances of medical science, he presented the Northern Persian Forces medal to Dr. Neil McLean, and recalled the fact that last year also this medal had been won by a member of the Kenya Medical Service, Dr. Farnworth Anderson. Dr. J. H. Sequeira, acting as president in the absence of Dr. R. W. Burkitt, sketched the political and social conditions obtaining in 1832, and showed the great part played by the association in improving the standard of medical education and in raising the standard of professional work. After an interval a paper by Dr. Réné Mouchet, principal medical officer for the Belgian Congo, was read, and the discussion which followed revealed that the methods adopted for dealing with medical problems in all the equatorial regions represented were practically identical. The proceedings on the second day were presided over by Sir Albert Cook, representing Uganda, who said that in 1896, when his party encamped on the present site of Nairobi, there was not a single house there. A paper on the White Man in East Africa, by Dr. D. V. Latham, of Tanganyika, aroused considerable discussion, and great interest was taken in an address on the Influence of Obstetrical Conditions on Vital Statistics in Uganda, by Sir Albert Cook. Mr. Swynnerton gave a lantern demonstration of the methods in use in tsetse control in Tanganyika. On the third day the chair was taken by Dr. Barugh Spearman, president of the Zanzibar branch, and the meeting was devoted chiefly to the consideration of tuberculosis as it affects the African. Papers were read by Dr. Charles Wilcocks, of Tanganyika, Dr. Spearman, and Dr. Yelverton Stones, of Uganda. Public health in tropical towns was discussed by Dr. R. R. Scott, of Dar-es-Salaam, and by Dr. H. W. Tilling, medical officer of health of Nairobi. The last morning was occupied by discussions on Dietetics, the chairman being Dr. Latham. The opening paper was by Dr. J. L. Gilks, the director of medical and sanitary services in Kenya, and he saw followed by Dr. J. J. Mitchell, of the Mulago Hospital, Uganda. A paper on the ocular manifestations of vitamin-A deficiency, by Dr. H. B. Owen, was supplemented by a demonstration of cases. Dr. L. J. A. Loewenthal also read a paper on, and demonstrated cases of, a cutaneous manifestation of a syndrome associated with vitamin-A deficiency.

Hospitals and Sweepstakes

Lord Londonderry, Secretary of State for Air, in a letter to the governors and subscribers of the Chelsea Hospital for Women, of which he is the president, expresses his regret that some voluntary hospitals should wish to turn to lotteries and sweepstakes to increase their revenues. "The spirit that makes a freewill offering and the spirit that makes an offering in the hope of deriving benefit therefrom are not natural allies," he says, "and, quite apart from any other consideration, I believe there is a considerable risk that between the two the voluntary system would come to an end."

Irish Medical Registration Council

The first meeting of the Medical Registration Council of the Irish Free State during the second period of office of the Council was held on Nov. 1st, at its offices, 35, Upper Fitzwilliam-street, Dublin. Five years having elapsed since the first establishment of the Council the tenure of office of all the members had come to an end, and nominations and elections had to take place anew during the last few months. There has been no change in personnel as a result of such nominations and elections. Since the establishment of the Council in 1927 there has been no change due to resignation, but three vacancies occurred by death—two in the representatives of the Royal College of Surgeons in Ireland, and one in the direct representation of registered practitioners. At the meeting on Nov. 1st Dr. Denis J. Coffey was re-elected president of the Council.

INFECTIOUS DISEASE

IN ENGLAND AND WALES DURING THE WEEK ENDED NOV. 12TH, 1932

Notifications.—The following cases of infectious disease were notified during the week:—Small-pox, 23 (last week 21); scarlet fever, 2145; diphtheria, 1012; enteric fever, 120; acute pneumonia (primary or influenzal), 864; puerperal fever, 40; puerperal pyrexia, 73; cerebro-spinal fever, 16; acute poliomyelitis, 32; acute polio-encephalitis, 3; encephalitis lethargica, 6; dysentery, 10; ophthalmia neonatorum, 93. No case of cholera, plague, or typhus fever was notified during the week.

Of the cases of enteric fever 87 were notified from the three Ridings of Yorkshire—namely, in the East Riding, 7 (Norton, U.D. 4, Bridlington, Norton, and Pocklington R.D.'s each 1); in the North Riding, 66 (Malton U.D. 58, Skelton and Brotton 1, Malton R.D. 3, Helmsley, Kirkby Moorside, Stokesley, and Thirsk R.D.'s each 1); in the West Riding, 14 (Bradford 1, Doncaster 1, Leeds 2, Denby and Cumberworth U.D. 6, Doncaster R.D. 2, Adwick-le-Street and Hipperholme U.D.'s each 1).

The number of cases in the Infectious Hospitals of the London County Council on Nov. 15th–16th was as follows:—Small-pox, 66 under treatment, 6 under observation (last week 70 and 2 respectively); scarlet fever, 2119; diphtheria, 1780; enteric fever, 16; measles, 212; whooping-cough, 391; puerperal fever, 18 (plus 6 babies); encephalitis lethargica, 231; poliomyelitis, 6; "other diseases," 150. At St. Margaret's Hospital there were 10 babies (plus 7 mothers) with ophthalmia neonatorum.

Deaths.—In 117 great towns, including London, there was no death from small-pox, 5 (1) from enteric fever, 13 (1) from measles, 4 (1) from scarlet fever, 20 (4) from whooping-cough, 37 (4) from diphtheria, 54 (19) from diarrhœa and enteritis under two years, and 52 (9) from influenza. The figures in parentheses are those for London itself.

Barking, Brighton, Hastings, and Cardiff each reported 1 death from enteric fever; Wigan and Birmingham each 3 fatal cases of measles. Diphtheria accounted for 5 deaths at Acton and at Hull, 4 at Manchester.

The number of stillbirths notified during the week was 257 (corresponding to a rate of 41 per 1000 total births), including 37 in London.

TYPHOID IN YORKSHIRE

The total number of typhoid cases reported to date at Malton is 243, with 15 deaths. Last Tuesday was the first day on which no new cases were notified. Dr. W. Vernon Shaw, a medical officer of the Ministry of Health, is advising the sanitary authority in coöperation with the local medical officer of health.

At Denby Dale no further cases of typhoid are reported; attention is concentrated on the sources of drinking water in the neighbourhood, some of which appear to be polluted.

Medical Diary

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY, Nov. 28th.—8 P.M., ODONTOLOGY. Paper: Mr. G. B. Pritchard: The Origin and Growth of a Composite Odontome. Casual communications: Dr. E. W. Fish: Report from Secretary for Foreign Correspondence. Mr. C. Bowdler Henry: The Use of Diatol in Dental Diathermy.

THURSDAY, Dec. 1st.—8 P.M., TROPICAL DISEASES AND PARASITOLOGY. Discussion: Jaundice. Openers: Mr. A. H. McIndoe: Pathological Anatomy of the Liver. Dr. J. W. McNee: Classification of Jaundice. Dr. N. Hamilton Fairley: Obstructive and Hæmolytic Jaundice in the Tropics. Dr. G. M. Findlay: Toxic Jaundice. Members of these Sections of Medicine and Pathology are specially invited to attend and to take part in the discussion.

FRIDAY.—10.30 A.M., OTOLOGY. (Cases at 9.30 A.M.) Papers: Mr. T. B. Layton: The Early Signs of Acute Otitis Media. Dr. Nancy Howell: The Value of Paracentesis in the Acute Specific Fevers. Cases will be shown. 5 P.M., LARYNGOLOGY. (Cases at 4 P.M.) Discussion: Vasomotor Affections of the Nose and their Relation to Bronchial Asthma. Openers: Prof. S. van Leeuwen (Leyden), Mr. Walter Howarth, and Dr. A. F. Wright (Birmingham). 8.30 P.M., ANÆSTHETICS. Paper: Dr. R. J. Minnitt: A Successful Treatment for Toxic Symptoms Resulting from Ether Anæsthesia. ODONTOLOGY (at the Birmingham Medical Institute), 6.45 P.M., Reception at Union Club. 7 P.M., Dinner at Union Club. 8.30 P.M., Paper: Dr. W. A. Potts: Dental Extractions in Nervous Breakdown with Special Reference to Reactions.

SATURDAY.—(Birmingham Medical Institute), 10.30 A.M., Demonstration of Speech-training Methods in Cleft Palate Cases. 11 A.M., Clinical Cases.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY, Nov. 28th.—8.30 P.M., Discussion on Use and Abuse of Massage, to be introduced by Dr. Arthur H. Douthwaite and Mr. Gwynne E. O. Williams.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

FRIDAY, Dec. 2nd.—8.45 P.M. (at the West London Hospital), Clinical and Pathological Meeting. (Cases at 8 P.M.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.1.

MONDAY, Nov. 28th, to SATURDAY, Dec. 3rd.—MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W. Series of lectures on Renal Disease. Tues., 4 P.M., lecture by Mr. Jocelyn Swan on Tumours of the Kidney. (Free to Members.)—LONDON LOCK HOSPITAL, 91, Dean-street, W. Course in Venereal Disease, afternoons and evenings.—BRITISH RED CROSS CLINIC FOR RHEUMATISM, Peto-place, Marylebone-road, N.W. Lecture-demonstrations on Diagnosis and Treatment of Chronic Rheumatism, Tues. and Thurs., 8.30 P.M.—INFANTS HOSPITAL, Vincent-square, S.W.1. Course in Infant's Diseases, afternoons.—BLACKFRIARS SKIN HOSPITAL, Blackfriars-road, S.E. Course in Dermatology, every afternoon from 2.30 P.M. Special demonstrations on Tuesdays.—These courses are open only to Members of the Fellowship of Medicine.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.

MONDAY, Nov. 28th.—10 A.M., Skin Department, Medical Wards. 11 A.M., Surgical Wards. 2 P.M., Medical, Surgical, Eye, and Gynæcological Out-patients. Operations. 4.15 P.M., Mr. Gibb: Demonstration of Eye Cases.

TUESDAY.—10 A.M., Medical Wards. 11 A.M., Surgical Demonstration. 2 P.M., Medical, Surgical, and Throat, Nose, and Ear Out-patients. Operations. 4.15 P.M., Lecture: Dr. Owen: The New-born Child.

WEDNESDAY.—10 A.M., Medical Wards. Children's Medical Out-patients. 2 P.M., Medical, Surgical, and Eye Out-patients. 4.45 P.M., Venereal Diseases.

THURSDAY, Dec. 1st.—10 A.M., Neurological Out-patients. 11.30 A.M., Demonstration of Fractures. 2 P.M., Medical, Surgical, Eye and Genito-urinary Out-patients. 4.15 P.M., Lecture: Mr. Woodd Walker: Flat Feet.

FRIDAY.—10 A.M., Skin Out-patients. 2 P.M., Medical, Surgical, Throat, Nose, and Ear Out-patients. Operations. 4.15 P.M., Dr. Archer: Biochemical Demonstration.

SATURDAY.—10 A.M., Medical and Surgical Wards. Surgical and Children's Medical Out-patients. The lectures at 4.15 P.M. are open to all Medical Practitioners without fee.

NATIONAL HOSPITAL, Queen-square, W.C.

MONDAY, Nov. 28th.—2 P.M., Dr. Riddoch: Out-patient Clinic. 3.30 P.M., Dr. Symonds: The Sensory System.

TUESDAY.—2 P.M., Dr. Walshe: Out-patient Clinic. 3.30 P.M., Dr. Denny-Brown: Conditioned Reflexes.

WEDNESDAY.—2 P.M., Dr. Martin: Out-patient Clinic. 3.30 P.M., Dr. Collier: Clinical Demonstration.

THURSDAY, Dec. 1st.—2 P.M., Dr. Kinnier Wilson: Out-patient Clinic. 3.30 P.M., Dr. Collier: Confusion, Aphasia, Dementia.
FRIDAY.—2 P.M., Dr. Adie: Out-patient Clinic. 3.30 P.M., Dr. Symonds: The Sensory System.

ROYAL NORTHERN HOSPITAL, Holloway-road, N.
TUESDAY, Nov. 29th.—3.15 P.M., Mr. L. E. Barrington-Ward: Some Surgical Causes of Indigestion.

LONDON JEWISH HOSPITAL, Stepney Green, E. (Post-graduate Lectures).
THURSDAY, Dec. 1st.—4 P.M., Mr. Arnold Sorsby: Squint.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.
FRIDAY, Dec. 2nd.—4 P.M., Mr. N. Asherson: Diseases of the Œsophagus.

ST. PETER'S HOSPITAL FOR STONE, POST-GRADUATE COURSE, Henrietta-street, Covent Garden, W.C.
WEDNESDAY, Nov. 30th.—3 P.M., Dr. Cuthbert Dukes: Pathology of Urinary Infections.

ST. PAUL'S HOSPITAL, Endell-street, W.C.
WEDNESDAY, Nov. 30th.—4.30 P.M., Dr. Nathan Mutch: Blood Changes in Kidney Diseases.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL POST-GRADUATE SCHOOL.
WEDNESDAY, Nov. 30th.—4 P.M., Dr. Thomas Marlin: Manipulation.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, Keppel-street, W.C.
THURSDAY, Dec. 1st, and FRIDAY.—5 P.M., Prof. F. W. Twort: Bacteria in Nature.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, 49, Leicester-square, W.C.
TUESDAY, Nov. 29th, and following THURSDAY.—5 P.M., Dr. A. C. Roxburgh: Cutaneous Syphilis.

ROYAL INSTITUTE OF PUBLIC HEALTH, Queen-square, W.C.
WEDNESDAY, Nov. 30th.—4 P.M., Dr. C. P. Blacker: Eugenics in Relation to the Maintenance and the Avoidance of Disease.
THURSDAY, Dec. 1st.—4 P.M., Dr. Doris Odlum: The Mentally Subnormal in Everyday Life.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley-road, Balham, S.W.
WEDNESDAY, Nov. 30th.—4 P.M., Dr. J. A. Braxton Hicks: Clinical Pathology of Cerebro-spinal Fluid.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL, Denmark-hill, S.E.
THURSDAY, Dec. 1st.—9 P.M., Dr. M. Critchley: Recent Advances in the Treatment of Nervous Diseases.

CHADWICK LECTURES.
THURSDAY, Dec. 1st.—8 P.M. (at the Royal Sanitary Institute, Buckingham Palace-road, S.W.), Dr. Carnwath: Public Health Administration.

CENTRAL ASSOCIATION FOR MENTAL WELFARE.
THURSDAY, Dec. 1st.—10.15 A.M. (in the Great Hall, British Medical Association House, Tavistock-square, W.C.), Opening of Conference on Mental Welfare by the Minister of Health.

BRITISH SOCIAL HYGIENE COUNCIL, Carteret House, Carteret-street, S.W.
WEDNESDAY, Nov. 30th.—11 A.M. (at B.M.A. House), Opening of Conference on the Place of Biology in Education.

ANCOATS HOSPITAL, Manchester.
THURSDAY, Dec. 1st.—4.15 P.M., Dr. G. L. Langley: Treatment of Nephritis.

MANCHESTER ROYAL INFIRMARY.
TUESDAY, Nov. 29th.—4.15 P.M., Dr. C. H. Malland: Severe Anæmia associated with Achlorhydria.
FRIDAY, Dec. 2nd.—4.15 P.M., Dr. Crighton Bramwell: Electrocardiographic demonstration.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.
TUESDAY, Nov. 29th.—3.30 P.M. (in the Faculty Hall, Vincent-street), Dr. A. S. M.Macgregor: The Milk-supply.
WEDNESDAY,—4.15 P.M. (in the Ear, Nose, and Throat Hospital), Dr. R. J. Watson: Ear, Nose, and Throat Cases.

Appointments

WRAITH, F., M.B., Ch.B. Manch., has been appointed Certifying Surgeon under the Factory and Workshop Acts for Lymm, Chester.

Vacancies

For further information refer to the advertisement columns

Altrincham General Hospital.—Sen. and Jun. H.S.'s. At rate of £150 and £120 respectively.
Ashton-under-Lyne District Infirmary.— Two H.S.'s. Each at rate of £150.
Birmingham and Midland Eye Hospital.—Res. Surg. O. £150.
Buckinghamshire C.C.—Asst. M.O.H. £500.
Cambridge, Addenbrooke's Hospital.—Res. Anæsthetist and Emergency Officer. £130.
Cancer Hospital, Fulham-road, S.W.—Asst. Radiologist. £350. Also H.S. At rate of £100.
Carlisle, Cumberland Infirmary.—Hon. Physician.
Central London Ophthalmic Hospital, Judd-street, W.C.—Pathologist. £105.
Central Pacific, Copra Estate.—Medical Officer.
City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, E.—Res. M.O. £250. Also H.P. At rate of £100.
City of London Maternity Hospital, 102, City-road, E.C.—Asst. Res. M.O. At rate of £80.
Connaught Hospital, Walthamstow, E.—Res. Cas. O. At rate of £100.
Cumberland County Council.—Consultant in Gynæcology and Obstetrics.
Dreadnought Hospital, Greenwich.—Med. Supt. £250. Also H.P. and H.S. Each at rate of £110.
East Ham Memorial Hospital, Shrewsbury-road, E.—Res. M.O. At rate of £200.
Elizabeth Garrett Anderson Hospital, Euston-road, N.W.—H.P., Obstetric Asst., Three H.S.'s. Each at rate of £50. Also Sen. and Jun. Clin. Assts.
Hampshire C.C.—Asst. County M.O. £600.
Hospital for Sick Children, Great Ormond-street, W.C.—Part-time Jun. Cas. O. At rate of £150. Also H.P. and H.S. Each at rate of £100.
Hospital for Women, Soho-square, W.—Registrar. £50.
Howe, Lady Chichester Hospital.—Sen. H.P. At rate of £100.
Ipswich, East Suffolk and Ipswich Hospital.—H.P. and Two H.S.'s. Each at rate of £120.
Jersey General Hospital and Poor-law Infirmary.—Res. M.O. £200.
Kingston and District Hospital.—Second Asst. Res. M.O. £300.
Leamington Spa, Warneford General Hospital.—Hon. Surgeon for Diseases of Ear, Nose and Throat.
Liphook, Hants, King George's Sanatorium for Sailors.—Asst. M.O. At rate of £200.
Liverpool and Samaritan Hospital for Women, Catherine-street.—H.S. At rate of £100.
Maidenhead Hospital.—Res. M.O. At rate of £150.
Manchester Ear Hospital, Grosvenor-square, All Saints.—Res. H.S.
Manchester, Ancoats Hospital.—Surg. Reg. Also H.P. At rate of £100.
Manchester Royal Eye Hospital.—Jun. H.S. £120.
Manchester and District Radium Institute.—Clin. Asst.
Middlesex County Council.—District M.O. and Public Vaccinator for Hendon Central. £80. Also District M.O. and Public Vaccinator to Lower Tottenham. £150.
Milford, Surrey, County Sanatorium.—Third Asst. Res. M.O. £250.
Miller General Hospital, Greenwich-road, S.E.—H.P., Two H.S.'s. Each at rate of £100. Also Out-patient Officer and Cas. O. Each at rate of £150.
North Middlesex County Hospital.—Res. Asst. M.O. £400.
Nottingham City Infirmary.—Third Res. M.O. £350.
Prince of Wales's General Hospital, N.—Hon. Clin. Assts. to Special Depts.
Princess Beatrice Hospital, Richmond-road, Earl's Court, S.W. Res. M.O. At rate of £110.
Princess Elizabeth of York Hospital for Children, E.—Hon. Physician to Special Dept. £100.
Princess Louise Kensington Hospital for Children, St. Quentin-avenue, N. Kensington, W.—Hon. Asst. Surgeon to Nose, Throat and Ear Dept. Also H.P. At rate of £100.
Queen Mary's Hospital for the East End, E.—Res. M.O. and Cas. O. At rate of £200 and £150 respectively. Also H.P. and H.S.'s. Each at rate of £120.
Queen's Hospital for Children, Hackney-road, E.—H.P. and Cas. O. Each at rate of £100.
Royal London Ophthalmic Hospital, City-road, E.C.—Out-patient Officer. £100.
Royal Northern Hospital, Holloway, N.—Second Ophth. Surgeon.
St. Peter's Hospital for Stone, &c., Henrietta-street, Covent Garden, W.C.—Fourth Anæsthetist. £25. Also Clin. Assts. to Members of Hon. Staff.
St. Thomas's Hospital, S.E.—Surgeon.
Salford Royal Hospital.—Res. Surg. O. At rate of £200. Also H.P., two H.S.'s to Special Depts., and Cas. H.S. Each at rate of £125.
Southern Rhodesia, Public Health Laboratory, Salisbury.—Technical Asst. £375.
Sutton, Surrey, Downs Hospital for Children.—Res. Asst. M.O. £350.
Talgarth, Breconshire, South Wales Sanatorium.—Res. M.O. £250.
Tilbury Hospital.—Med. Supt. £200.
Warwick, King Edward VII. Memorial Sanatorium, Hertford Hill. Jun. M.O. At rate of £200.
West Bromwich, Hallam Hospital.—Res. H.S. £200.
West London Hospital, Hammersmith-road, W.—H.P. and Two H.S.'s. Each at rate of £100. Hon. Med. Reg. Also Gynæcologist.
Westminster Hospital, Broad Sanctuary, S.W.—H.S. to Ear Nose, Throat, and Eye Depts. At rate of £120.
Wigan, Royal Albert Edward Infirmary and Dispensary.—Res. Med. and Surg. O. and Reg. £250.
Wigan, Royal Infirmary.—H.S. At rate of £150.
Willesden General Hospital, N.W.—Clin. Assts. to Out-patients' Dept.
Windsor, King Edward VII Hospital.—Two H.S.'s. Each at rate of £100.
Woolwich and District War Memorial Hospital, Shooters-hill, S.E.—Hon. Anæsthetist. Also H.P. and H.S. Each at rate of £100.
Wrexham and East Denbighshire War Memorial Hospital.—Two Res. H.S.'s. At rate of £150.

The Chief Inspector of Factories announces vacant appointments for Certifying Factory Surgeons at Leominster (Hereford) and Coleford (Gloucester).

NOTES, COMMENTS, AND ABSTRACTS

THE LANCET COMMISSION ON NURSING

DISCUSSION AT PUBLIC HEALTH CONGRESS

ON NOV. 18th, at a meeting organised by the British Hospitals Association, a discussion on THE LANCET Commission on Nursing was opened by Sir SQUIRE SPRIGGE, Editor of THE LANCET, Sir ARTHUR STANLEY presiding.

Sir Squire said that THE LANCET Commission was formed in December, 1930, under the chairmanship of Lord Crawford and Balcarres, the terms of reference "being to inquire into the reasons for the shortage of candidates, trained and untrained, for nursing the sick in general and special hospitals throughout the country, and to offer suggestions for making the service more attractive to women suitable for this necessary work." The Commission issued two interim reports, he said, which were incorporated in the final report published in February of this year. An elaborate questionnaire addressed to more than a thousand hospitals obtained a two-thirds response, and showed that half of the hospitals failed to secure enough probationers or staff-nurses of the standard required, and one-fifth to secure suitable sisters. Since 1931, when the statistics were collected, the position had improved, partly because the conditions offered in hospitals were getting better every day, but mainly because in times of economic depression work which offered board and lodging became more popular. The reasons for shortage given to the Commission from widely different sources had been sifted, their relative importance discussed, and constructive proposals framed. The Commission were able to sum up the influences against nursing as a career for educated girls under the following main headings: (1) the gap in age between leaving school and entering hospital; (2) poor pay and prospects, considering the length of training, and uncertain provision for old age; (3) long hours; (4) conditions of admission and service; (5) the dual strain of ward work and study; (6) the alarming scope of the Final State examination; (7) the anomalous conditions governing recognition of previous training; (8) the excess of domestic work unconnected with patients. Opinions differed as to the relative importance of these factors, but, Sir Squire said, it was worth noting the view of the Commission (expressed in para. 64 of the report) that attention directed to the gap between school and hospital, to the conditions of admission and service, and to the recognition of previous training would produce speedier results than attention to any other sections. He added that from the point of view of expense to the hospitals, the recommendations referring to these sections did not in the main involve increases of expenditure, but adjustment of outlook.

Sir Squire spoke briefly of the constructive suggestions made under the eight headings, and concluded by a few remarks on the shortage among trained nurses of applicants for posts in hospitals. This shortage had been held by the Commission to have some relation to the type of girl who was drawn to the profession, since a girl who felt she had powers of initiative and organising ability, and possibly a faculty for leadership, did not seem to realise that hospital authorities were on the alert to find those ultimately fit for higher administrative posts as well as those who desired to pass their lives in giving personal service to the sick. Again, he said, the removal of some of the restrictions of hospital life for the trained nurse would certainly induce a larger number of women to remain in institutions after registration. The supervision exercised over the probationer's conduct of life in that portion of the 24 hours when she was not on duty was often explained as desirable in her own interests; but the fact that in most hospitals almost the same regulations were applied to the trained staff diminished the force of this argument. The knowledge that State registration meant escape from a protective environment would have a double advantage, for it would also encourage educated girls to enter hospitals. And if they did, he said, they would enter on a career which apparently brought more content and happiness into life than almost any other work open to women. This might seem a strange conclusion to a summary of things that wanted altering in hospital life, but he pointed out that there was no paradox—the modern girl had as much zeal for service as her grandmother had, but the hospitals were failing to pull her in to the work which needed her.

THE DIVISION OF THE PRELIMINARY STATE EXAMINATION

Miss E. S. INNES (lady superintendent of Leeds General Infirmary) thought that the majority of the Commission's recommendations would meet with general approval, and many of them were adopted already at some hospitals. She was opposed to division of the Preliminary State examination, although she agreed that it would be useful to have some anatomy and physiology taught in secondary schools. Schools, however, had not the right setting for the full understanding of these subjects, which called for practical application. She could quote the opinion of a leading teacher of anatomy that nurses should be taught their anatomy and physiology while in hospital, and that even a probationer with a B.Sc. degree in these subjects would profit by the course given to nurses during training. Furthermore, the General Nursing Council would not be able to limit the recognition of schools where these subjects were taught. Specialisation at school was not to the advantage of the pupil; what a prospective nurse needed was an all-round general education so that she would be less likely to get into a groove later. Miss Innes did not agree that questions on systematic medicine and surgery should be withdrawn from the Final State examination. She favoured the institution of central preliminary training schools. She did not think the leakage during the first year was as high as had been supposed. At her own hospital out of 260 entrants only 34 had failed to complete the course. The gap between leaving school and entering hospital ought to be filled by additional education; the nursing profession needed girls with wider experience and some knowledge of the world. Domestic work in the wards should be reduced. She considered that the modern girl made a good nurse.

Mr. L. G. BROCK (chairman of the Board of Control) said that part of the difficulty of obtaining mental nurses was due to the fact that mental hospitals lay in out-of-the-way places. There was also, he said, quoting the report, "a prejudice which almost amounts to horror" against mental patients in the public mind. It was true that mental nursing had its distressing aspects, but so had many branches of general nursing. It was as interesting to guide a mind as to guide a body back to health. In a few mental hospitals the conditions of accommodation and service offered to nurses were still deplorable, but in an increasing number the nurses enjoyed conditions resembling collegiate life. At present the type of girl applying was not really good enough; mental hospitals needed the best type of nurse.

Miss M. E. SPARSHOTT (president of the College of Nursing), giving her personal views, agreed with the opinion of the Commission that there should be more trained nurses in proportion to nurses in training in the wards. It was possible that more nurses were being trained than could usefully be absorbed; about 5000 nurses were passing the Final State examination every year, and this influx would soon bring its dangers. It was difficult to get staff-nurses in small hospitals, and the proposal in the report that a higher salary should be offered to trained staff-nurses

in such hospitals was constructive. She did not approve the suggestion that a ward sister in approved training schools should be paid a higher salary in consideration of her teaching duties unless she held some extra certificate which was necessary for her appointment, since all ward sisters were expected to teach. Miss Sparshott was in favour of dividing the Preliminary State examination on the lines suggested in the report, and quoted the view of the Head Mistresses' Association that if the examination was divided girls of a higher educational level would be attracted to nursing. If parents knew that the inclusion of anatomy and physiology in the school course would help a girl forward in her profession they would make an effort to maintain her at school for the extra period. The leakage of entrants was greatest, at the present time, during the first year of training, owing to the dual strain of ward work and study. If girls had passed the Preliminary State examination in anatomy, physiology, and hygiene before entering hospital they would be able to give more time to ward nursing and to profit by more practical training.

Mr. H. L. EASON (Guy's Hospital) thought it would be a pity to lay down any rigid standard of general education for entrants to the nursing profession. Education was wanted in nurses, but also something which did not always go with education. The University of London granted a diploma to registered nurses, and it was remarkable how often the examiners had to waive the educational requirements laid down for candidates for this diploma; if they were insisted upon rigidly some extraordinarily good nurses would be prevented from sitting for the examination. He could see no possible objection to splitting the Preliminary State examination into two parts, provided that 18 was made the earliest age of entry of candidates into hospital; that anatomy, physiology, and hygiene had not been learned so long before that the prospective nurse had forgotten all about them; and that the General Nursing Council was satisfied that the training given in these subjects at the schools was thorough. Discipline was essential to a nursing staff. The nurse was in constant attendance on the patient, and if she came to the wards tired and jaded she would not be fit for her work. Nurses should have more opportunity for direct expression of opinion to the authorities, however. The remuneration a nurse received on entering hospital was unimportant in comparison with that which she received when she had completed her training. In this connexion it was of interest that in 1909 the total nursing staff at Guy's had numbered 261, and their salaries had amounted to £4226; in 1931 the nursing staff had numbered 351, and their salaries amounted to £19,160. This showed that the monetary position of the nurse was improving. If nurses were too highly paid no one would be able to afford private nurses. An investigation of nurses trained at Guy's Hospital had shown that 40 per cent. married, 30 per cent. took institutional appointments, and the remainder took up private nursing. The encouragement of migration between different types of hospital by linking up pension schemes was highly desirable.

Lord CRAWFORD said that the Commission had found everybody ready to give them assistance. Evidence had been obtained from well-qualified and documented sources, and those who had given evidence had never shown an attitude of complacency over the nursing problem. Doubts and difficulties were freely discussed, whether economic, physical, or personal. In some places obstacles to recruitment were being removed; in others they were acute and getting worse. The attitude of those in authority in the nursing profession was that of deepest anxiety to discover solutions of their difficulties. Some of the recommendations in the report had already been acted upon; others were in the process of adoption. Since the issue of the report economic conditions had gone from bad to worse, and some of the difficulties in recruiting nurses had been alleviated. But this alleviation was only temporary; with the improvement of the financial situation the old problems would recur. The present time was a period of transition which should be used to improve and reorganise the status of the nursing profession.

THE ONE PORTAL ENTRY

Miss R. DARBYSHIRE (matron of University College Hospital) said that she also was able to quote the opinion of a famous teacher of anatomy, who could see no reason why the nurse should not do the first part of the divided examination before entering her training school, with advantage not only to herself but to the hospital. The fear that had been expressed that division of the examination would interfere with the one portal entry to the profession was quite unfounded. Miss Darbyshire stood firmly for the idea that professional examinations should be conducted by the General Nursing Council, and there was nothing in the report opposed to that idea. She had been impressed by the strain which nurses had to support during their first year. She wanted to see them start ward work with some knowledge of the body in health, and go on to study the body in disease. Parents might be unwilling to keep their daughters at school after the age of 16 for general culture, but they would be more willing to do so if it meant that girls could make a definite advance in their profession. She begged that no one would put this suggestion on one side as impracticable before making a thorough study of the report.

Miss E. R. GWATKIN (Streatham Hill High School) set out the advantages of dividing the Preliminary State examination. Probationers working hard in the wards, she said, were little able to profit by lectures given in the evening; their time off duty, moreover, ought to be given to recreation and rest. Girls of 16 needed continued general education, it was true, but it would be easy to work in anatomy, physiology, and hygiene of the required standard during a period of two years without undue specialisation. Division of the examination would certainly help recruiting. She could see no reason why anatomy and physiology need be imbibed at the bedside; these were the rules of the normal body. Naturally the courses offered by schools would have to be approved by the General Nursing Council; naturally the General Nursing Council would have to conduct the examinations. Turning to other aspects of the problem, Miss Gwatkin said that she disliked the word probationer; the nurse in training was no more on probation than any other student. Restrictions on nurses should be relaxed—not discipline in the wards, but arbitrary restrictions affecting the private life of the nurse. At schools it was found that if the treatment of girls was set at the level to which the best girls responded the behaviour of the rest of the class rose to that level. The modern girl respected efficiency, and if she was trusted did not let authority down.

Miss M. WILMSHURST (Queen's Institute of District Nurses) praised the report as a thoroughly considered document.

Nurse MARRIOT (Representative Council of Nurses, Guy's Hospital) said that her council had discussed the report fully. Many of the changes recommended were already in force in their own hospital. They agreed that the Preliminary State examination should be divided, but thought that specialisation should not begin before the age of 17. They did not agree with the suggestion that recruitment of a suitable type of girl would best be promoted by keeping salaries to probationers low; in their view first-year probationers' salaries should be high enough to make them independent, say, £40 a year.

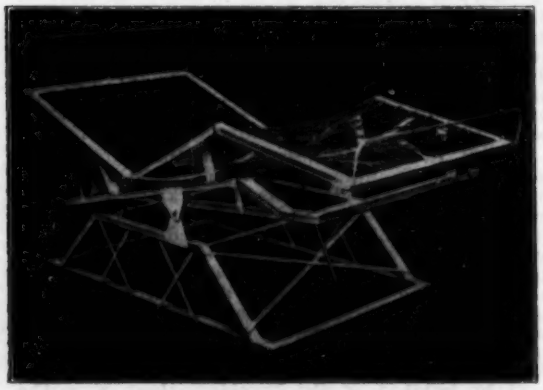
Alderman LOVESY (Mental Hospitals Association) took exception to the recommendation that sisters' posts should be held by mental nurses who also had a general training. In his opinion general training might rob the nurse of the sympathetic approach to patients which was important in mental nursing. Male charge-nurses could not easily gain general

training, and they would lose an incentive if they could not rise to be head of a ward; as a result, men of a poorer type would apply for the work. Hospitals had shown no great willingness to give general training to mental nurses over a shortened course of two years.

The CHAIRMAN, in expressing thanks to the speakers, said that the report of the Commission was a work of reference which would stand for many years to come.

A SURGICAL BED

WE have received from Messrs. Lewis's Ltd., of Liverpool, Manchester, and Birmingham, an account of a bed, shown in the illustration, intended for surgical and general use. By the aid of simple quick-release devices, the bed can be altered, it is stated, to give the occupant over 340 different positions without moving it from its place on the floor. The releasing gears are at the head, side, and foot of the bed. The one at the side of the bed can be used



by the occupant who, by pressing a pair of lazy tongs, secures the desired change of position, either the recumbent or sitting. The control levers at the head and foot of the bed are for use by doctors or nurses, or whoever is in charge of the patient, and their purpose is to effect an easy and comfortable change of position. The bed can also be used as an operating table. It is mounted on wood or rubber wheels and is built like a steel bridge under the mattress which comprises springs of Birmingham chain and tension springs. It does away entirely with the necessity of lifting a patient while in bed. A number of the beds have been tried with satisfactory results in hospitals in Lancashire, and Messrs. Lewis's offer to lend beds for a month's trial to any institution of this kind.

THE CONSTRUCTION OF RADIUM NEEDLES

THE first radium tubes designed for surgical insertion into growths were not easily placed in position, but they were soon succeeded by tubes which were christened needles. These had torpedo points so that it was easier to insert them, and it became easier still when the torpedo end was sharpened off into the familiar trocar point. The head end of the needle also received attention, being drilled transversely so as to hold a thread; but since a plain drill hole has a cutting edge, the tethering thread often came adrift, and this had to be got over by drilling the hole like a bodkin eyelet. The mechanical efficiency side of the case was thus achieved; from the radiological side is required (1) screening of the more easily absorbed rays and (2) uniformity of the radiation field round the tube. Current practice is to have not less than 0·5 mm. platinum for screening when the radium is to be inserted into the tissues; for many purposes it is better to have still greater thicknesses of platinum but their bulk would soon render the term needle inappropriate. Uniformity of radiation round any tube, needle, or radium applicator is a much more elaborate consideration; the consequences of any defect in the uniformity of filling of the appliance have been shown by autophotographs of radium tubes giving the radiation zones.[1] In any appliance such as a radium needle or flat circular applicator which is uniformly filled with radium, the rays have their greatest effect along an axis perpendicular to the centre of the appliance, and if it is desired to bring the peripheral portions of the field up to the same intensity, it is customary to compensate by adding more radium at the boundary regions, as for instance in making up surface radium applicators. Mr. W. V. Mayneord in the September issue of the *British Journal of Radiology* describes a radium needle which he has designed with these difficulties in view. He has tried to eliminate the effects of the dead ends of the needle and he has set off the high axial effect by diminishing the amount of radium in the centre portion of the needle. An autophotograph of the radiation field shows an improvement upon that got with the ordinary needle. The filtration is only equivalent to about 0·38 mm. of platinum. Presumably this is why the needles are not recommended for surgical insertion; as the author states, there is a danger of some beta rays escaping.

[1] Russ, S., and Clephan, D. F.: THE LANCET, 1930, ii., 286.

Births, Marriages, and Deaths

BIRTHS

CAPENER.—On Nov. 13th, at Exeter, the wife of Norman Capener, F.R.C.S., of a daughter.

MCMURTRIE.—On Nov. 15th, at Palmerston-place, Edinburgh, the wife of Dr. A. C. B. MacMurtrie, Carleton, Carlisle, of a daughter.

MARRIAGES

KILPATRICK—TOZER.—On Nov. 15th, quietly, at the Brompton Oratory, Daniel Ross Kilpatrick, M.D., of Teignmouth, to Mary Monica Henrietta, only daughter of Mr. and Mrs. Tozer, of Teignmouth.

DEATHS

ARLIDGE.—On Nov. 13th, at Oakhill, Stoke-on-Trent, John Frederick Arlidge, L.R.C.P., L.R.C.S., L.M., in his 80th year.

CLARKE.—On Nov. 22nd, 1932, at 44, Bryanston-court, W.1, Ernest Clarke, C.V.O., M.D., F.R.C.S., of 149, Harley-street, aged 75. Service at St. Marylebone Parish Church on Friday at noon.

COLLIER.—On Nov. 22nd, in a nursing home, William Tregonwell Collier, M.C., M.D., F.R.C.P., of Woodstock-road, Oxford, aged 43.

GREGORY.—On Nov. 14th, at Richmond, Edward Thomas Gregory, M.R.C.S., L.R.C.P., late of Redcliffe-gardens, S.W., aged 78 years.

GROOM.—On Nov. 18th, at Woolton-road, Garston, Liverpool, Henry Thomas Groom, L.R.C.P., aged 76.

INGRAM.—On Nov. 13th, at 149, Warwick-street, S.W.1, Reginald Edward Tierney Ingram, M.D. Brux., L.M.S.S.A. Lond., L.S.A., aged 63.

MORT.—On Nov. 21st, at his residence, at the North Middlesex County Hospital, Lieut.-Colonel Spencer Mort, M.D., Ch.M., F.R.C.S. Edin., F.R.S. Edin., medical superintendent.

SPROTT.—On Nov. 21st, at his residence, Heathfield, Pendleton, near Manchester, William John Sprott, M.D., J.P., and of Dromore, County Down, aged 77 years.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

PRESENTATION TO A MEDICAL MAN.—On Nov. 17th Dr. R. D. O'Leary and Mrs. O'Leary were presented with a silver tea service by the staff of the Bethnal Green Hospital, where he was medical superintendent from 1918 until the beginning of this year. Members of the committee and staff of the institution referred to his valuable work, particularly in the modernisation of the hospital after the military occupation, while Mr. W. P. Greenwood, his successor as superintendent, expressed pleasure at Dr. O'Leary's recovery from his recent illness, and spoke of his high qualities as a chief. In reply, Dr. O'Leary ascribed the success of the hospital to team-work, and said that his morning cup of tea would be sweetened by the memory of the happy times he spent there.